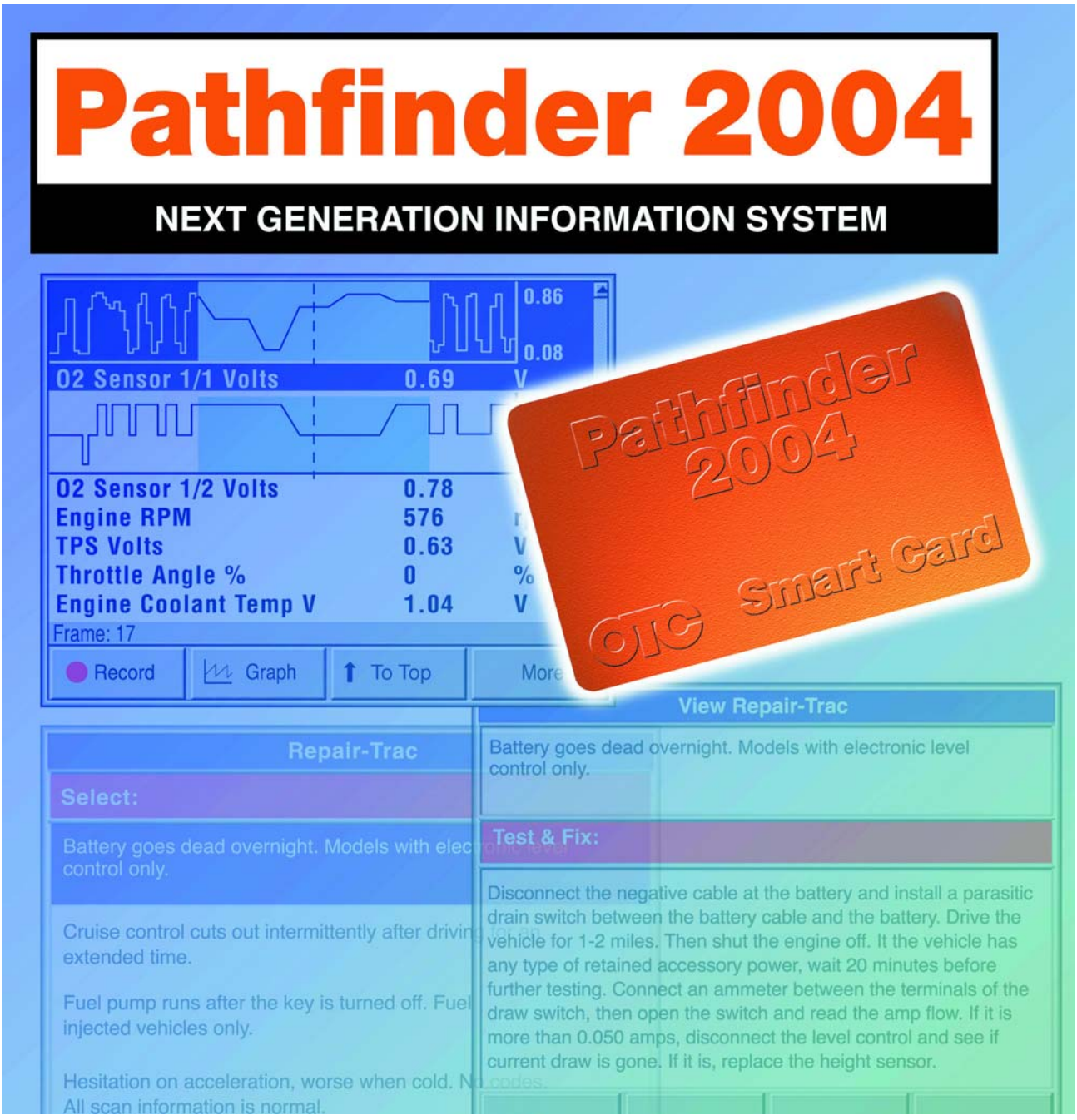
SPX OTC

PATHFINDER 2004 USER GUIDE


Pathfinder 2004
NEXT GENERATION INFORMATION SYSTEM
0.86
0.08
O2 Sensor 1/1 Volts 0.69 V
O2 Sensor 1/2 Volts 0.78
Engine RPM 576
TPS Volts 0.63 V
Throttle Angle % 0 %
Engine Coolant Temp V 1.04 V
Frame: 17
Record
Graph
To Top
More
Pathfinder 2004
Smart Card
OTC
Repair-Trac
Select:
Battery goes dead overnight. Models with electronic level control only.
Cruise control cuts out intermittently after driving for extended time.
Fuel pump runs after the key is turned off. Fuel injected vehicles only.
Hesitation on acceleration, worse when cold. No codes. All scan information is normal.
View Repair-Trac
Battery goes dead overnight. Models with electronic level control only.
Test & Fix:
Disconnect the negative cable at the battery and install a parasitic drain switch between the battery cable and the battery. Drive the vehicle for 1-2 miles. Then shut the engine off. It the vehicle has any type of retained accessory power, wait 20 minutes before further testing. Connect an ammeter between the terminals of the draw switch, then open the switch and read the amp flow. If it is more than 0.050 amps, disconnect the level control and see if current draw is gone. If it is, replace the height sensor.

IMPORTANT NOTICE

SAFETY

All Danger, Warning and Important notes must be followed for your safety. These safety messages will be in the following formats:

⚠ Danger:

- **Means you may risk possible loss of life**

⚠ Warning:

- **Means you may risk possible bodily harm**

Important:

- **means you risk damage to the vehicle or the tool**

Notes: are added to provide clarity and helpful tips.

These safety messages cover situations SPX is aware of. SPX cannot know, evaluate and advise you as to all of the possible hazards. You must be certain that any conditions or service procedures encountered do not jeopardize your personal safety.

COPYRIGHT

No part of this manual may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SPX.

DISCLAIMER

All information, illustrations, and specifications contained in this technical instruction manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without obligation to notify any person or organization of such revisions or changes. Further, SPX shall not be liable for errors contained herein or for incidental or consequential damages (including lost profits) in connection with the furnishing, performance or use of this material.

© 2004 SPX Corporation. All rights reserved.

Contents

Quick Start 1
- **Program Software Installation** 1
- **Pathfinder Diagnostics Overview** 1
  - *More about Diagnostics* 1
- **Quick Startup** 2

Diagnostic Functions 5
- **Vehicle Description** 5
- **New Vehicle Description** 6
  - *Saved Vehicle Description* 6
  - *Select a Vehicle Description* 7
  - *Delete a Vehicle Description* 7
- **Repair Trac** 7
- **Fast Fixes** 7

Data Stream 9
  - *More About Data Stream* 9
- **Data Stream Viewing Options** 10
- **Integrated Diagnostics - Scan/Gas** 10
  - *More about Diagnostics and Scan/Gas* 10
- **Power Control Module Conflict** 12
  - *More about conflict* 12
- **Sensor Lock** 13
- **Custom Data Items** 13
- **Record** 14
  - *More about Record* 14
- **Diagnostic Code Triggered Recording** 15
  - *To Delete a File* 15
- **File Recording** 15
  - *Record Datastream* 15
  - *Rrecord a Failure Record* 16
  - *Record Diagnostic Trouble Codes* 16
- **Playback a File** 16
  - *Delete a Recorded File* 17
- **Freeze Frame** 18
- **Graphing** 18
  - *More about Graphing* 18
  - *LED Bar* 18
  - *Switch LED* 19
  - *Analog meters* 19
  - *To Hide Analog Meters* 19
  - *Zoom Graph* 20
- **Print** 20
  - *Printer Activation* 20
- **Sensor Display Configuration** 20
  - *How to Position Sensors* 20
- **GM Diagnostic State** 22
  - *More about Road Test State* 22
  - *More about Field Service State* 22

More About Back-Up Fuel State 22
More About ALDL State 22
Diagnostic Code Information 23
Read/Current Codes 23
Pending Codes 23
Fail Since Clear Codes 24
Clear Codes 24
Freeze Frame 24
Diagnostic Trouble Code Status 24
Failure Records 25
SELF DIAGNOSTICS 25
Key-On, Engine-Off Self-Test 26
More About the KOEO Self-Test 26
Key-On, Engine-Off Injector Buzz 26
Key-On, Engine-Off Output State 26
Key-On, Engine-Running Self-Test 27
More About the KOER Self-Test 27
Key-On, Engine-Running Glow Plug Test 27
Key-On, Engine-Running Cylinder Contribution Test 27
Key-On, Engine-Running Switch Test 27
On Demand Test 28
Speed Cable Slack 28
Audio Net Test 28
Accurate Trim 28
Pneumatic Test 28
Wiggle Test 29
Code History 29
Trip Counts 30
Special Tests 31
Readiness Status 31
More About Readiness Status 31
Drive Cycle 32
Oxygen Sensor (O2) Test 32
More About Oxygen Sensor Testing 32
Component Parameters 33
More About Component Parameters 33
OUTPUT CONTROLS 34
High Speed Fan On 34
Low Speed Fan On 34
Turn All Outputs On 35
ENGINE CONTROLS 35
Air Pump Control 35
Fan On/Off 36
Crankshaft Learn 36
High Fan Control 36
Low Fan Control 36
Idle Air Control Position 37

Idle Air Control RPM 37
Spark Retard Control 37
To Command the Spark Retard 37
Starter Inhibit Control 37
EVAPORATIVE EMISSIONS CONTROLS 37
Canister Purge Solenoid Control 38
To Command the Canister Purge Solenoid 38
Canister Vent Solenoid Control 38
To Switch the Canister Vent Solenoid 38
Exhaust Gas Recirculation Control 38
EGR Vent Solenoid 39
Evaporative Service Bay Test 39
To Activate the Evaporative Service Bay Test 39
FUEL SYSTEM CONTROLS 39
Fuel Pump Relay 39
More About the Fuel Pump Relay 39
Fuel Injector Disable 40
More About Fuel Injector Disable 40
Fuel Closed Loop 40
More About Fuel Closed Loop 40
Fuel Trim Reset 40
DIESEL CONTROLS 40
Boost Control 41
Engine Shutoff Solenoid 41
Fuel Injection Timing Control 42
Glow Plug Relay Control 42
ENGINE INDICATOR LAMPS CONTROL 42
Alternator Lamp Control 43
Change Oil Lamp Control 43
Check Gauges Lamp Control 43
Engine Hot Lamp Control 43
Low Coolant Lamp Control 43
MIL Lamp Control 44
Oil Level Lamp Control 44
Oil Pressure Lamp Control 44
Service Throttle Soon Lamp Control 44
TRANSMISSION CONTROLS 44
Pressure Control Solenoid 45
Reverse Inhibit Control 45
Torque Converter Clutch Control 45
Transmission Gear Control 46
3-2 Shift Solenoid 46
Preset or Reset Adaptive Parameters Control 46
Skip Shift Control 46
TRANSMISSION INDICATOR LAMPS CONTROL 47
1-4 Shift Lamp Control 47
2nd Gear Start Lamp Control 47

Shift Lamp Control 47
Up-shift Lamp Control 47
ACCESSORY CONTROLS 48
Air Conditioning Clutch Relay 48
Alternator L-Terminal Control 48
More About the Alternator L-Terminal 48
Cruise Inhibit 48
More About the Cruise Inhibit Control 48
Actuator Tests 49
Idle Air Control 49
Enable/Disable Test 49
Switch Test 50
More about the Switch test 50
To Display All Switches 50
To Display Shift Level Position 50
Pressure Switches 52
Actuator Tests 53
Clutch Volume Index Test 53
EMCC Status 54
Quick Learn 54
Battery Disconnect 54
Pinion Factor 54
OBD II Trip Status 58
Clutch Tests 58
Before Testing 58
CCD Bus Monitor 58
OTHER TESTS 59
Minimum Air Idle Speed 59
Emission Maintenance Reminder (EMR) Lamp Reset 59
Set Synchronization Mode 59
Reset Idle Air Control 60
Reset Adaptive Fuel 60
Reset Minimum Throttle Position Sensor 60
Reset Flexible Fuel Percent 60
Enable Door Lock 60
Disable Door Lock 61
Module Information 61
Vehicle Information 61
Specifications 61
Related TSBs 61
System Type 62
Programmable Read Only Memory Identification 62
Pathfinder Quick Path 63
Repair Trac 64
Fast Fixes 64
Code Information 64
More about Failure Statements 65

Symptoms 66
Data/Sensor Information 66
TSB References 66
B.O.B Information 66
Specifications 67
Component Locations 67
Reminder Lamp Reset 68
Appendix 69
Vehicle Diagnostic Menus 69
Vehicle Applications **73**
SPX Corporation Limited Warranty ..... Inside Back Cover
Technical Service Inside Back Cover
Repair Service Inside Back Cover

This page is purposely left blank

Chapter 1: Quick Start

Program Software Installation

- If you purchased the Next Generation Information System tool with Pathfinder 2004, you will find the Pathfinder 2004 program already pre-installed and ready to be used to perform diagnostic analysis on a vehicle.
- If you purchased an upgrade to Pathfinder 2004 or any of the other Next Generation Information System programs, you must install the program from the Compact Disk (CD) onto your Next Generation Information System tool.
- To install program software revision updates, connect to the SPX Internet web site and download the latest update.

Complete instructions for installing program software are located on a separate instruction sheet entitled, *"Next Generation Information System Tool Software Installation, p/n 505138" or "How to install program software from a compact flash onto the Next Generation Information System, p/n 511381."*

Pathfinder Diagnostics Overview

The Pathfinder 2004 Diagnostics program processes vehicle control system data into an easily readable format. The Pathfinder program reads, graphs and records sensor and switch input or output (data stream), reads diagnostic trouble codes and performs special tests. The Pathfinder Quick Path Troubleshooting function provides quick diagnostic tests and troubleshooting data.

More about Diagnostics

Pathfinder 2004 tests all On-Board Diagnostics Two (OBD II) applications such as GM, Saturn, Ford, Jeep and Chrysler, as well as most Asian and European imports equipped with the OBD II emissions standard system. The Pathfinder 2004 program initiates the diagnostic process by creating a custom menu that lists tests and procedures available for the vehicle description entered into the program. From the custom diagnostic menu, a number of powerful test options can be selected:

- Select DATASTREAM to view sensor and switch data stream information communicated from the vehicle computer. The sensors can be arranged on-screen for side-by-side comparison, viewed in a digital, graph, analog meter, or on-screen LED format. Up to 150 frames of data are automatically and continuously recorded for viewing at any time or to be printed as a document. For more information, refer to "**Data Stream**" on page 9

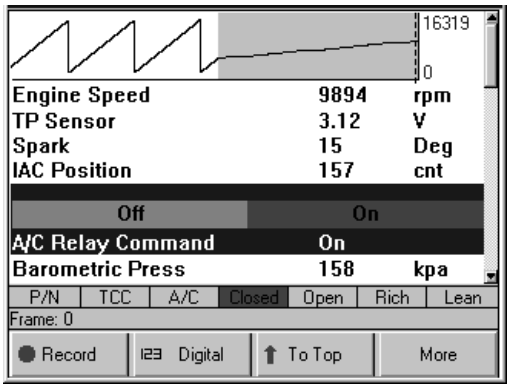


Figure 1.1: Data Stream Display

- Select CUSTOM DATA ITEMS to view only the sensors and switches you select. For more information, refer to "**Custom Data Items**" on page 13
- Select INTEGRATED DIAGNOSTICS - SCAN/GAS to view the sensor and switch datastream side-by-side with exhaust gas datastream (CO, CO2, HC, O2, NOX AFR). For more information, refer to"**Integrated Diagnostics - Scan/Gas**" on page 10.
- Press the RECORD Function key to quickly capture the data stream that occurs before and after the Record key is pressed. The recording can be played back and viewed at any time. For more information, refer to "**File Recording**" on page 15
- CODE TRIGGERED RECORDING is always active: When a diagnostic trouble code is set, The diagnostic code and the data stream data that occurred before and after the diagnostic code is automatically recorded to a file. The file is placed in the playback folder for viewing at any time. For more information, refer to "**Diagnostic Code Triggered Recording**" on page 15
- FREEZE FRAME is always available when viewing data stream. Press the left side of the Direction key to instantly "Freeze" the data, then review it frame by frame. For more information, refer to "**Freeze Frame**" on page 18
- GRAPHING visually displays the sensor data in a continuously updated graph. Data is displayed in a graph format and digital read-out. For more information, refer to "**Graphing**" on page 18
- Select DIAGNOSTIC CODES to view Diagnostic Trouble Codes set by the vehicle computer. Pathfinder 2004 can also view pending codes to see if a diagnostic code is

about to be set. And Pathfinder 2004 lists the General Motors OBD II A, B, C, and D diagnostic code designations that help the technician identify the order of importance for repairing diagnostic codes. For more information, refer to "**Diagnostic Code Information**" on page 23

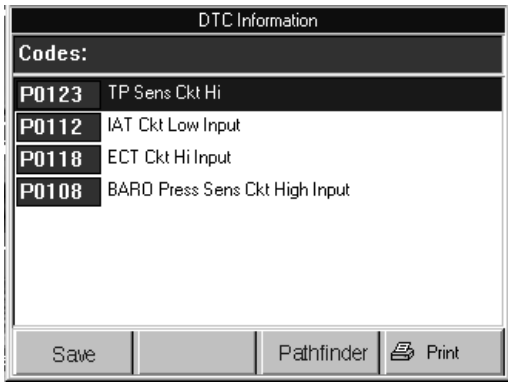


Figure 1.2: Diagnostic Code Display

- Select SPECIAL TESTS to initiate many specific tests for vehicle sensors, control General Motors bi-directional devices and view the immediate sensor reaction on-screen. For more information, refer to "**Special Tests**" on page 31
- Select PATHFINDER for quick diagnostic tests that are expertly edited from vehicle manufacturer recommended procedures. Pathfinder troubleshooting tests include Diagnostics by Symptom, Code setting Criteria, Wire Colors, Tune-up Specifications, Circuit Descriptions, Circuit Values, Possible Causes and Technical Service Bulletin titles. For more information, refer to "**Pathfinder Quick Path**" on page 63
- Select REPAIR TRAC from Pathfinder Quick Path to access a databank of repairs for hard-to-diagnose "pattern failures" on vehicles with 50,000 or more miles. For more information, refer to "**Repair Trac**" on page 7.
- Select FAST FIXES for a vehicle specific checklist of most likely and overlooked causes, refer to"**Fast Fixes**" on page 7

Quick Startup

The start-up procedure begins immediately when the tool is powered on. After a self-check of the tool, programs from the Application Manager menu may be selected to begin testing.

To start the Pathfinder 2004 program, follow these steps:

1 Press the tool power button to activate the tool. The operating system will automatically initialize and an Application Manager menu will appear.

2 Select **Scan Diagnostics** from the Application Manager Menu and then press ENTER.

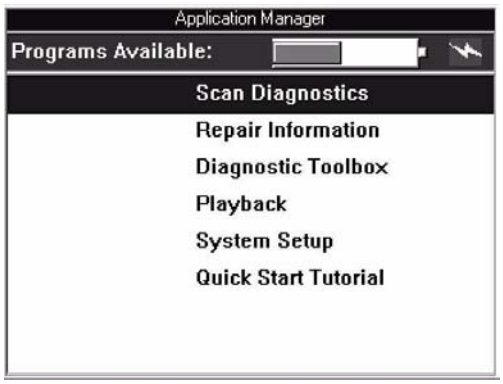


Figure 1.3: Application Manager MenuS

3 Select the **Pathfinder 2004** diagnostic program, refer to *Figure 1.4*. The Vehicle Identification screens will appear next.

Note: *If the Gas 2000 or Gas M-P Gas Analyzer program is installed on the NGIS, the gas program will automatically initialize to be used with Pathfinder. The Gas components used for testing exhaust gas may be installed on the vehicle now. Refer to the Gas analyzer User Manual as required for reference. .*

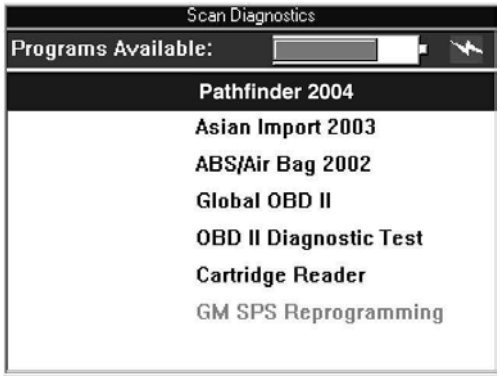


Figure 1.4: Scan Diagnostics Menu

4 Enter the vehicle description in the program information screens, see *Figure 1.5*). Place the cursor on the correct response and press ENTER. The number of screens required to describe a vehicle will vary.

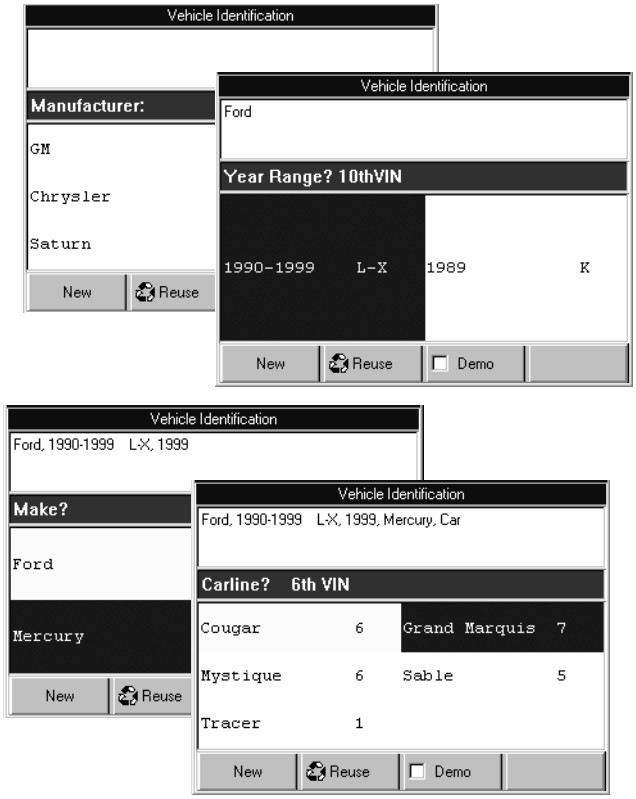
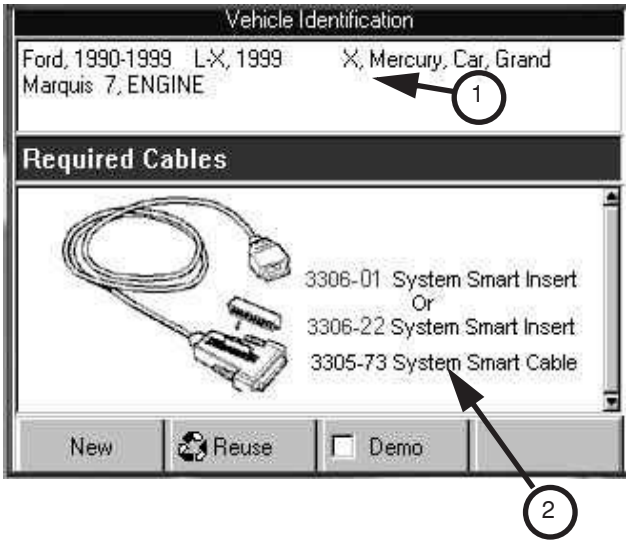


Figure 1.5: Vehicle Descriptions

5 When the vehicle description is completed, the correct cable to connect the tool to the vehicle Data Link Connector will be identified, see *Figure 1.6*. Attach the 25-pin connector end to the tool, see *Figure 1.7*

Note: *OBD II vehicles supply power to the scan tool through the 3305-73 cable. When using the 3305-72 OBD I cable, connect the scan tool to a cigarette lighter receptacle or to the vehicle battery for power. This also charges the scan tool internal battery.*

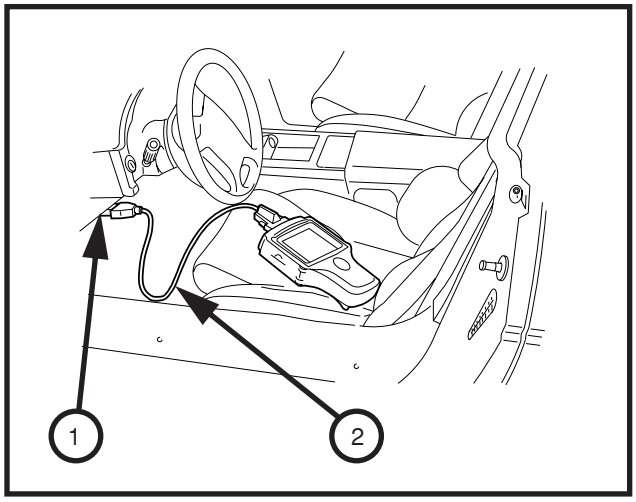


Item 1 Vehicle Description

Item 2 Vehicle Cables required

Figure 1.6: Vehicle and Cable

6 Attach the Data Link end connector to the vehicle Data Link Connector.



Item 1 Data Link Connector

Item 2 Vehicle Adapter Cable

Figure 1.7: Connect The Data Link Connector Cable to the Vehicle

7 From the Diagnostic menu, see *Figure 1.8*, select the tests to perform on the vehicle:

- Select DATASTREAM to view sensor and switch data stream information, for more information see "**Data Stream**" on page 9
- Select CUSTOM DATA ITEMS to view specific sensors and switches and to increase the refresh rate, see "**Custom Data Items**" on page 13

- Select INTEGRATED DATASTREAM AND GAS to view the sensor and switch datastream side-by-side with exhaust gas datastream (CO, CO2, HC, O2, NOX AFR). For more information, see "**Integrated Diagnostics - Scan/Gas**" on page 10.
- select DIAGNOSTIC CODES to view diagnostic trouble codes set by the vehicle computer, for more information see "**Diagnostic Code Information**" on page 23
- select PATHFINDER for quick diagnostic tests that are expertly edited from vehicle manufacturer recommended procedures, for more information see "**Pathfinder Quick Path**" on page 63
- select SPECIAL TESTS to initiate specific tests for vehicle sensors, for more information see "**Special Tests**" on page 31
- select VEHICLE INFORMATION to view specifications provided by the vehicle computer and Pathfinder Quick Path, for more information see "**Vehicle Information**" on page 61

Note: *Some vehicles are not equipped with all of the capabilities Pathfinder 2004 is able to test or activate, all menu choices illustrated will not be applicable for all vehicles. Only those menu choices applicable to the vehicle will be displayed on the Diagnostic Menu.*

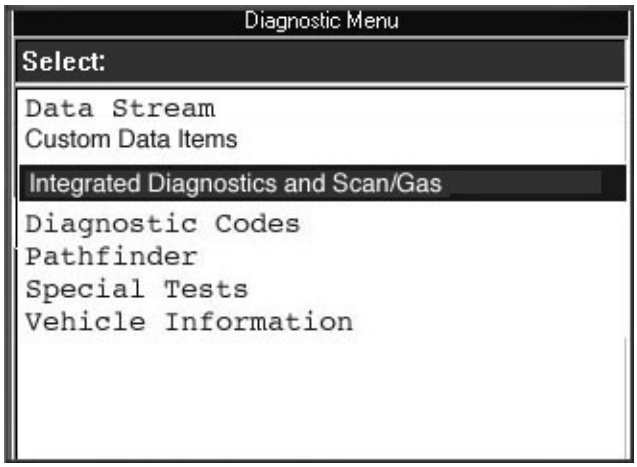


Figure 1.8: Diagnostic Menu

Chapter 2: Diagnostic Functions

Vehicle Description

Vehicle description is required for the Pathfinder 2004 program to create a custom menu that lists the tests and procedures available. The required description process to enter a new vehicle often requires several steps. Pathfinder 2004 speeds this process by storing up to 25 vehicle descriptions in files that you can re-use to re-enter a vehicle description. Simply select the saved description file and press Enter. Refer to *Figure 2.1* to view a "snapshot" of typical vehicle identification screens. Vehicle Description steps are described in "**New Vehicle Description**" on page 6 and demonstrated in "**Quick Startup**" on page 2.

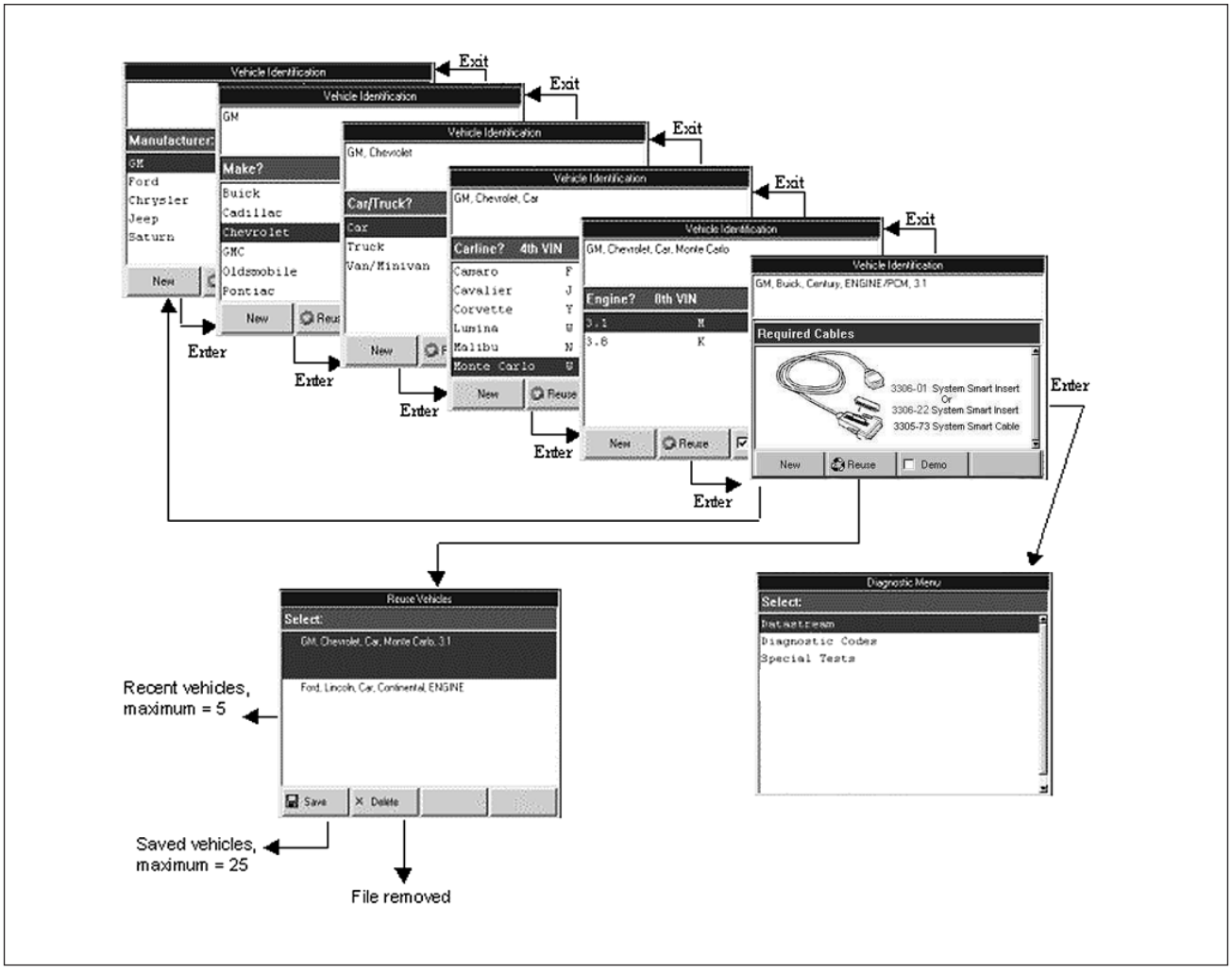


Figure 2.1: Vehicle Description Overview

New Vehicle Description

New Vehicle description lists the classification required to identify a vehicle for testing. As a vehicle is identified, the classification path selected is displayed at the top of the screen. When all vehicle classifications are determined, the cables required to connect the test unit to the vehicle are displayed at the bottom of the screen.

To identify a new vehicle, follow these steps:

1 Select a Vehicle Manufacturer, press ENTER.

2 Select from each of the vehicle classification screens that follow until the vehicle is fully identified.

3 View the vehicle adapter cables required for connecting the test unit to the vehicle.

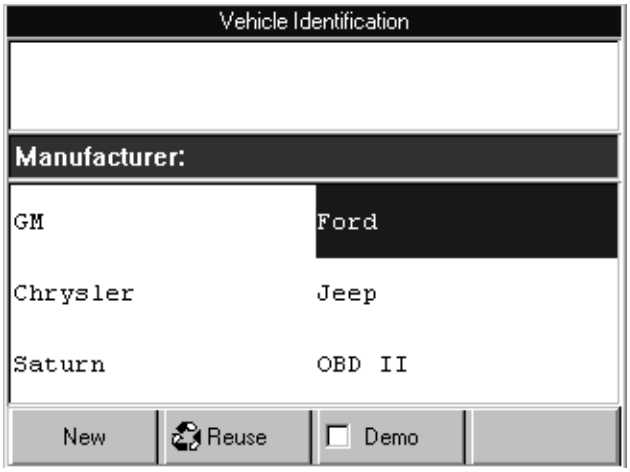


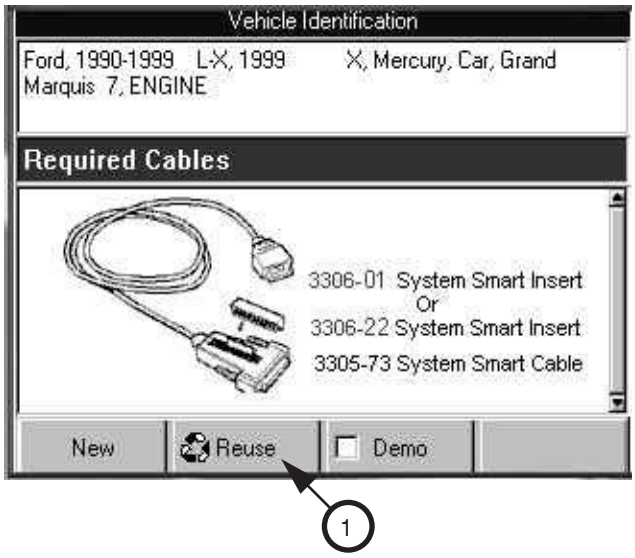
Figure 2.2: Vehicle Description

Saved Vehicle Description

New vehicle information entered into the program may be saved and then selected for same vehicle testing. As many as 25 vehicle classification descriptions may be saved to memory for later use.

To save the vehicle identification to a file, follow these steps:

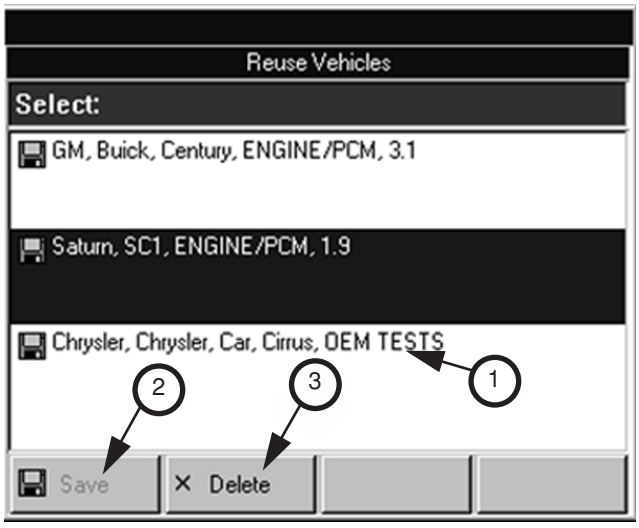
1 Press the REUSE Function key twice when the entire vehicle description is entered.



Item 1 Reuse

Figure 2.3: Vehicle/Cable Description

2 Press the SAVE Function key to save the vehicle description to memory.



Item 1 Vehicle Description

Item 2 Save File

Item 3 Delete File

Figure 2.4: Reuse List

Select a Vehicle Description

To select a saved vehicle identification file, follow these steps:

1 Press the REUSE Function key, see *Figure 2.3*.

2 Select the vehicle to reuse from the list, see *Figure 2.4*, press ENTER

Delete a Vehicle Description

To delete a vehicle description, follow these steps:

1 Select the file to be deleted with the Command Bar, see *Figure 2.4*.

2 Press the DELETE Function key.

Repair Trac

Repair Trac is a databank of repairs for those hard-to-diagnose "pattern failures" on vehicles with 50,000 or more miles. The Repair Trac databank is accessible at all times from the Application Manager Main Menu and accessible in Pathfinder Quickpath in diagnostic programs such as Pathfinder 2004.

Fast Fixes

Fast Fixes are a vehicle-specific diagnostic checklist of the most likely fixes or possible overlooked causes of common problems for the vehicle-identified vehicle.

To Access Repair Trac or Fast Fix, follow these steps:

1 Select **Repair Trac** or **Fast Fix** from **Repair Information** on the Application Manager Main Menu, see *Figure 2.5* or from Pathfinder "Quickpath," see *Figure 2.6*

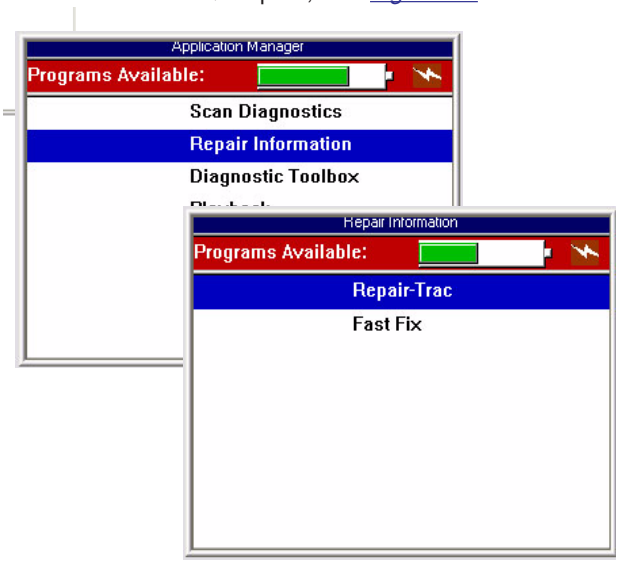


Figure 2.5: Application Manager Main Menu Repair Trac

Note: *If Repair Trac or Fast Fixes are accessed through Pathfinder Quickpath the vehicle classification information entered for the diagnostic program is used, Repair Trac or Fast Fixes for the vehicle will appear immediately.*

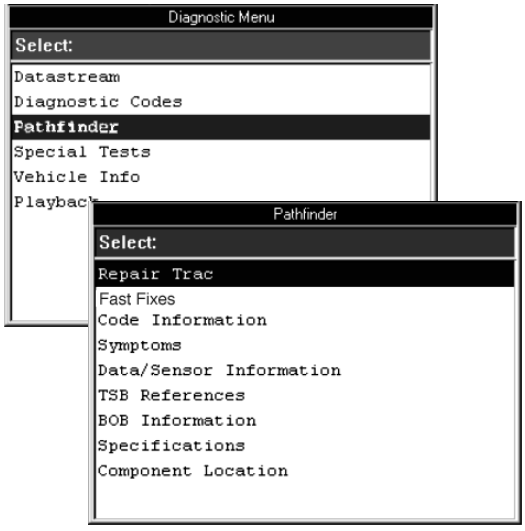


Figure 2.6: Pathfinder Quickpath Repair Trac or Fast Fixex

2 Select from each of the vehicle classification screens, see *Figure 2.7* until the vehicle is fully identified. Select the vehicle **Year > Make > Model >Engine > System >**

Symptom. If selection is made from Pathfinder, Repair Trac or Fast Fixes will use the vehicle data entered for Pathfinder.

Note: *The RT Code located on the Repair Trac Problems and Fixes screen is a Repair Trac Code (RT) only. The RT is not a part of the OBD II or vehicle manufacturer Diagnostic Trouble Codes (DTC).*

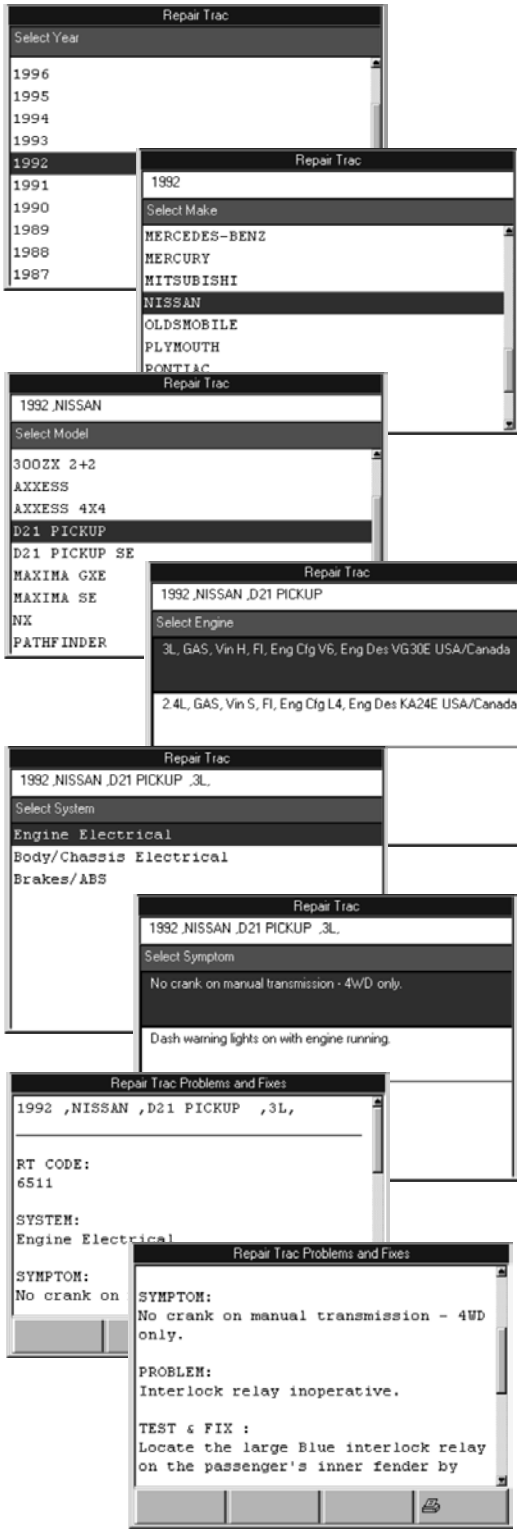


Figure 2.7: Repair Trac or Fast Fixes Selection

Data Stream

Data Stream is the electrical signal sent between the vehicle computer and the vehicle sensors or switches. The data is converted and displayed in a readable format for the repair technician.

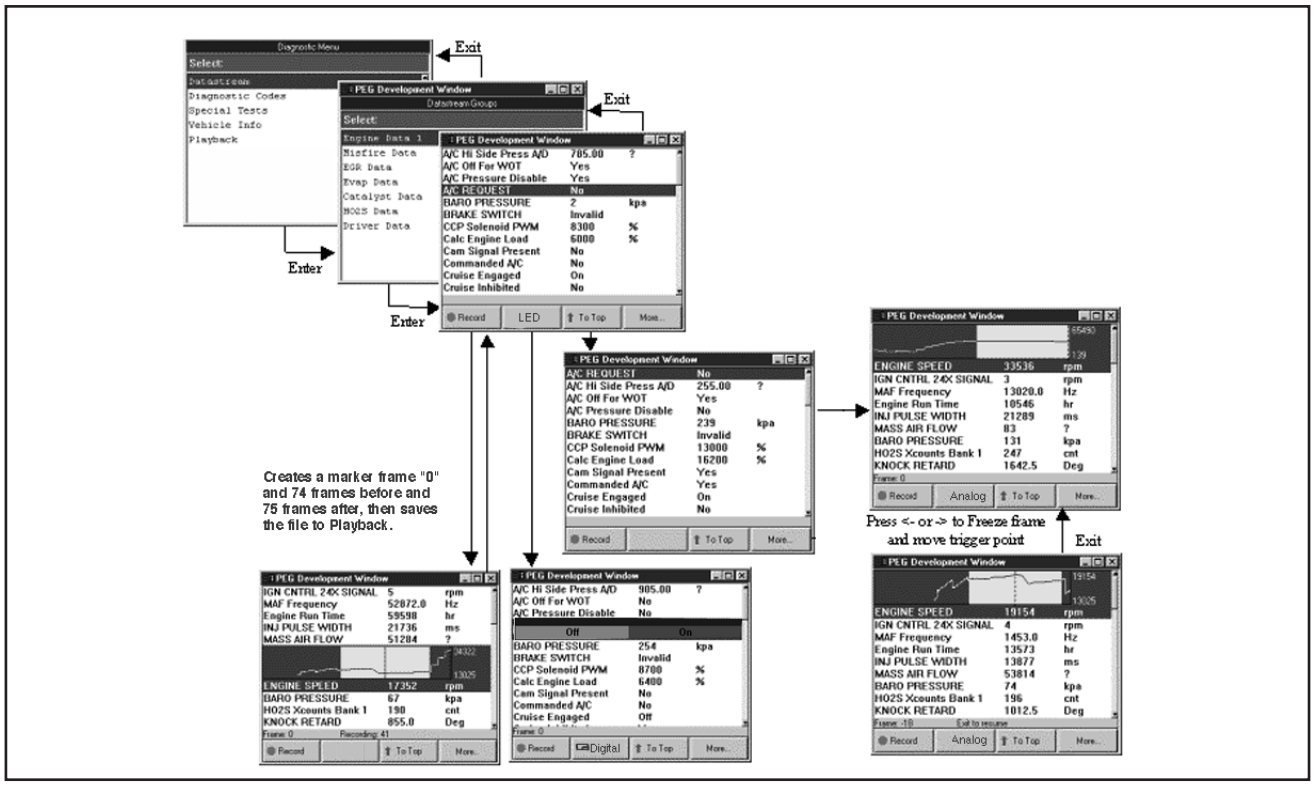

Exit
Exit
Enter
Enter
Creates a marker frame "0" and 74 frames before and 75 frames after, then saves the file to Playback.
Press <- or -> to Freeze frame and move trigger point
Exit

Figure 2.8: Data Stream Overview

More About Data Stream

The data stream function activates a pre-selected group of essential sensors and places them at the top of the display for immediate reference. The remaining sensors and switches detected on the vehicle are listed in alphabetical order.

Note: *Some 2001 and newer vehicles report switches in the data stream that are not installed. Usually the false data is obvious such as reporting a 4-wheel drive switch on a automobile, and the switch always stays in the Off position. If a switch does not turn On or seems out of place, verify that the vehicle is actually equipped with the switch.*

To view data stream, follow this path:

All Vehicles > Diagnostic Menu > **Data Stream**

Data Stream Viewing Options

When viewing data stream, a number of options are available that permit data review or amplification:

- Integrated Diagnostics and Scan/Gas,see page 10
- Power Control Module (PCM) conflict to view conflicting PCM data, see page 12
- Record data, see page 14
- “Zoom” to increase the viewable data window, see page 20
- Digital data, graph, on-screen LED or analog meters display to visually enhance data, see page 18
- Display Configuration to enable sensor comparison, see page 18 and page 20
- Select Custom Data Items to view specific sensors and switches and to increase the refresh rate, see page 13
- Printing to capture data to paper, see page 20.Integrated Datastream and Gas

Integrated Diagnostics - Scan/Gas

Integrated Diagnostics - Scan/Gas views the sensor and switch datastream side-by-side with exhaust gas datastream (CO, CO2, HC, O2, NOX AFR)

More about Diagnostics and Scan/Gas

The Gas 2000 or Gas M-P program must be activated with the Smart Card to view the Diagnostics and Scan/Gas function. If the Gas program was not purchased, the Diagnostics and Scan/Gas menu choice will not appear.

To View Diagnostics and Scan/Gass , follow these steps:

1 Connect the Gas measurement hardware to the vehicle, refer to the Gas program Users Manual for detailed steps.

2 From the Diagnostic Menu, Click **Integrated Diagnostics and Scan/Gas.**

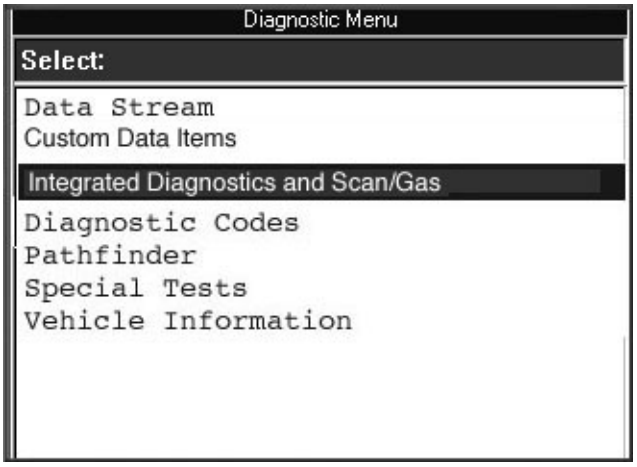


Figure 2.9: Integrated Diagnostics and Scan/Gas

3 Select the data group for viewing. The Gas program will automatically begin by "zeroing" the Gas Sampling device. Remove the device from the vehicle exhaust to permit intake of fresh air.

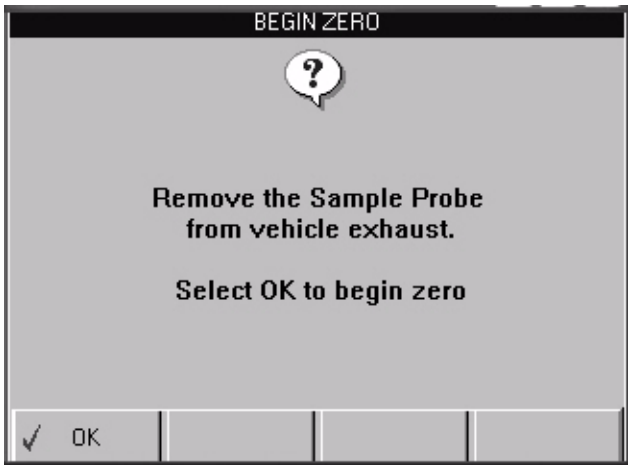


Figure 2.10: Gas "zero" procedure begins

4 Press the F1-OK button to see the Data and Gas display.

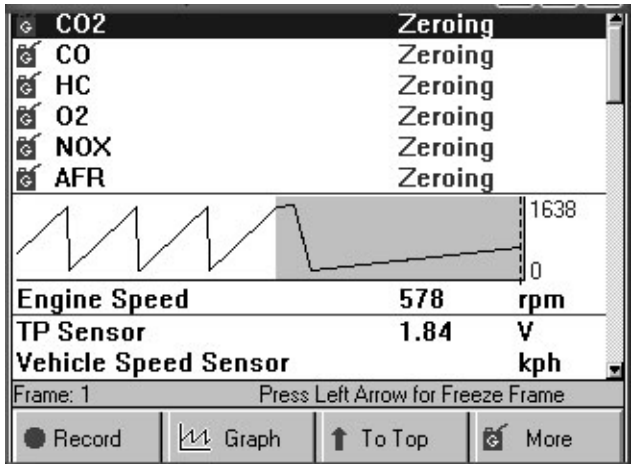


Figure 2.11: Gas and Data Display

5 When the Gas program has finished zeroing the device, Shift the Gas data to match it to the vehicle datastream.
Note: *The exhaust gas produced in the engine at the moment the data sensors read data will not be measured until 9 to 14 seconds later because of the length of the vehicle exhaust system. Shifting the Gas data allow a "match-up" of the engine data with the Gas data*

6 "Snap" the throttle open 2 or 3 times to set a full rich condition, count the number of seconds for the HC gas value to show the rich condition.

7 Click the **More** button, and click **Gas Options**.

,

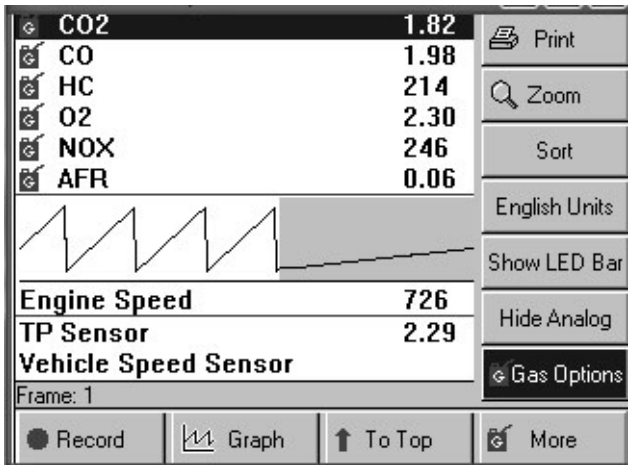


Figure 2.12: Gas Options

8 The Gas Correlation Time Shift screen will appear. Set the shift by pressing the Up or Down arrow to enter the number of seconds to shift the data (10 to 12 seconds is average). Click the **F1 (OK)** button to view the data with the data shift.

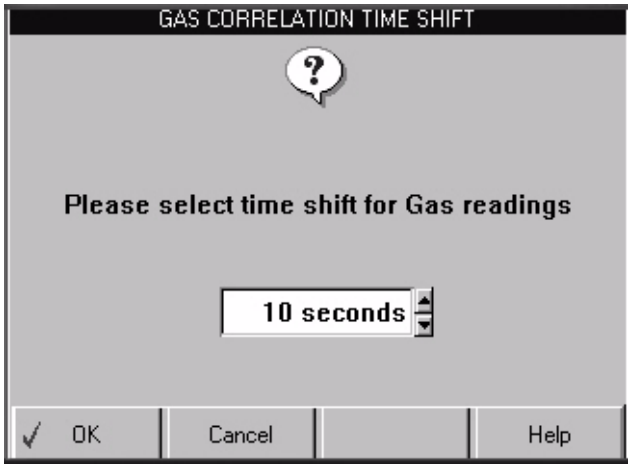


Figure 2.13: Shift Data

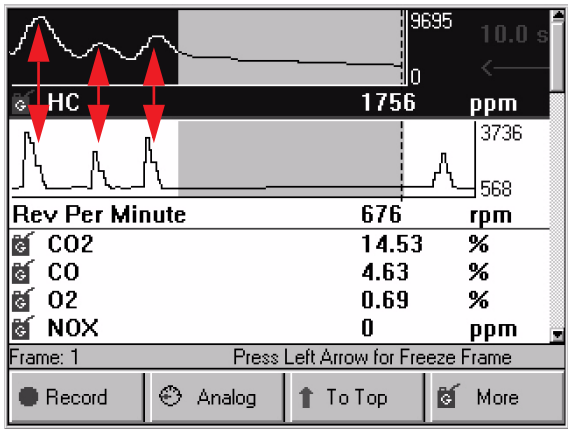


Figure 2.14: Data Shift lined up

9 Notice in *Figure 2.14* the three “snaps” of the throttle align with the same three peaks in the gas data. This indicates that a time shift offset of 10 seconds is correct for this vehicle.

Power Control Module Conflict

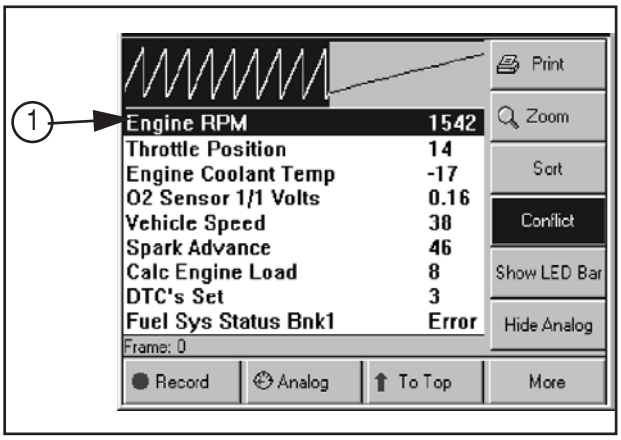
A Power Control Module (PCM) conflict occurs in OBD II generic systems when two, or more, PCMs are reporting conflicting data for the same sensor; for example, RPM.

More about conflict

When two or more PCMs are reporting conflicting data for the same sensor the data will displayed in a red color. View the Conflict report to determine which PCM may be reporting bad data.

To View PCM Conflict Report, follow these steps:

1 If the sensor is displayed in a red color, Click **F4 More** > **Conflict**.

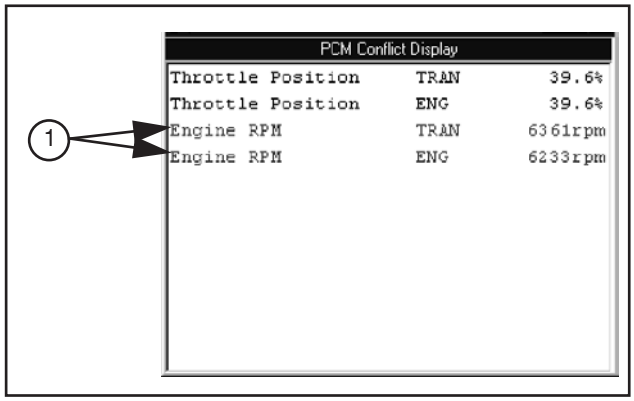


Item 1 Sensor displayed in red

Figure 2.15: PCM Conflict

If the data value in the Conflict Report is close there is no need for concern, the conflict is most likely due to a timing difference between the PCMs when they report data.

If there is a large difference in the data value, suspect a broken wire or a PCM fault.



Item 1 Conflicting sensor data

Figure 2.16: PCM Report

Sensor Lock

A sensor may be locked to permit data recording of the locked sensor's data when it is not displayed on-screen.

To lock a sensor, follow these steps:

1 Place the cursor on the sensor and press ENTER. A "Locked" icon will appear to the left of the sensor.

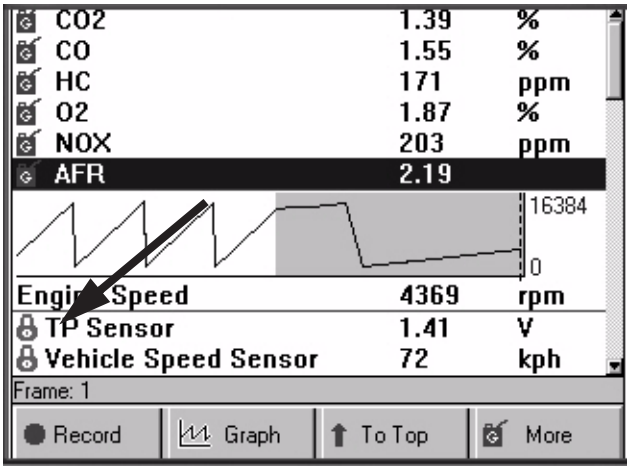


Figure 2.17: Sensor Lock

2 To remove the lock, place the cursor on the sensor again and press ENTER.

Custom Data Items

Sensors and switches may be locked to permit viewing and recording of only the locked sensors and switches. Viewing fewer sensors also increases the refresh rate due to fewer items monitored.

To setup Custom Data Items, follow these steps:

1 Select **Custom Data Items** from the Diagnostic Menu.

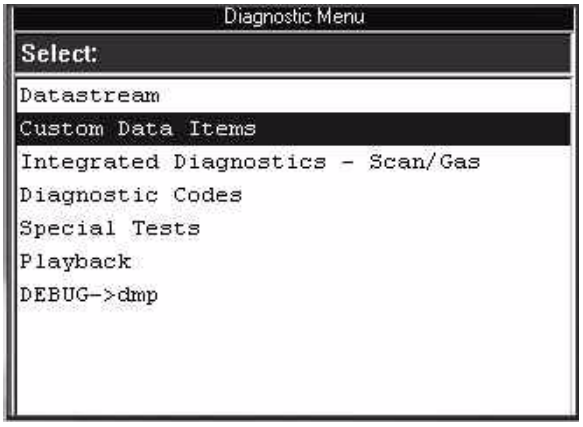


Figure 2.18: Diagnostic Menu

2 Select the Disgnostic Data Group required.

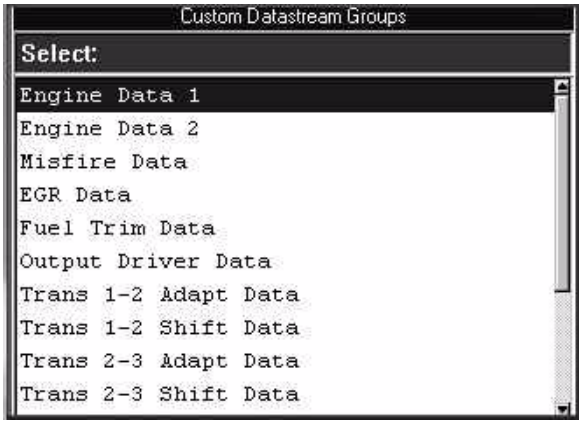


Figure 2.19: Diagnostic Data Group

3 Select the sensors for viewing by moving the cursor to highlight the sensors required, Press ENTER to select (press ENTER to deselect, if required).

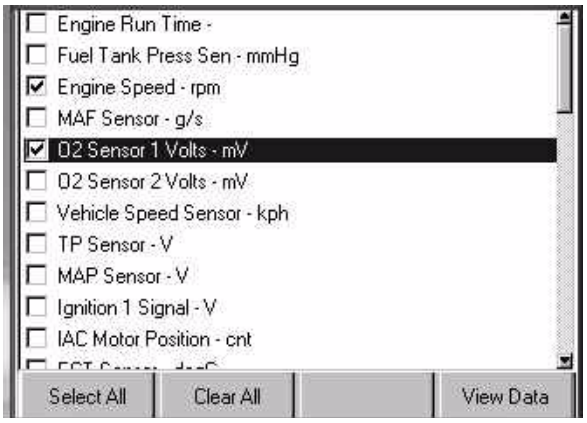

Engine Run Time -
Fuel Tank Press Sen - mmHg
Engine Speed - rpm
MAF Sensor - g/s
O2 Sensor 1 Volts - mV
O2 Sensor 2 Volts - mV
Vehicle Speed Sensor - kph
TP Sensor - V
MAP Sensor - V
Ignition 1 Signal - V
IAC Motor Position - cnt
Select All
Clear All
View Data

Figure 2.20: Sensors check list

4 Press F4, View Data.

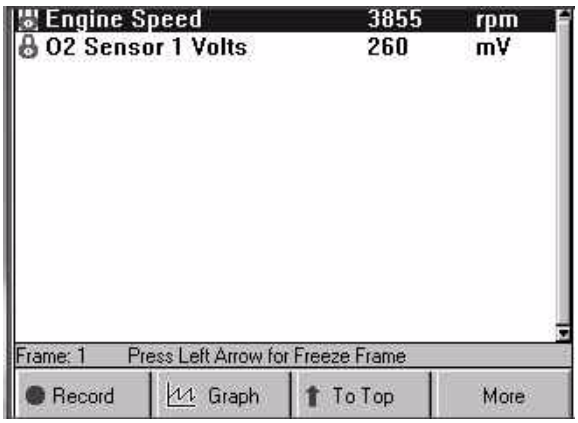


Figure 2.21: Custom Data Screen

Record

The Record function continuously and automatically creates a record of the sensor or switch data. This data can be viewed “real” time in a graph or up to 150 frames of data can be recorded and stored in a file for detailed examination at a later time.

More about Record

Three methods are available to capture data or sensor information:

- **Diagnostic Code Triggered Recording** – When a diagnostic trouble code is set, data stream data that occurred before and after the diagnostic code is automatically recorded to a file. The file is automatically placed in the playback folder for viewing at any time.
- **Record and Playback** – Press the RECORD key to capture up to 150 frames of sensor data that occurred before and after the trigger was pressed. A frame numbered “0” marks when the RECORD key is pressed. the The data is automatically recorded to a file and placed in the playback folder for viewing at any time.
- **Freeze Frame** – Freeze Frame is always available when viewing data stream. Press the left cursor to instantly “Freeze” the data, then review it frame by frame.

Diagnostic Code Triggered Recording

The Diagnostic Code Triggered record function is always active in data monitor. Whenever a diagnostic code is set in the vehicle computer, the record function will automatically capture the diagnostic code and the data that occurred at the moment the diagnostic code was set, plus it will record data that occurred before and after the diagnostic code was set. The recorded data is automatically saved to a file and stored in the playback folder. A diagnostic code data file can be accessed from the playback file and reviewed at any time.

To view a Triggered Recording, Follow these steps:

1 Press the MENU key to return to the Application Manager Menu.

2 Select Playback, and then press ENTER.

3 Select the file to view, and then press ENTER.

4 Press the left or right side of the Direction key to view each frame in sequence.

5 Press EXIT to return to the Pathfinder program.

Events to Playback
Select Event:
Failure Record
GM, 2000-2004 Y-4, 2004, Buick, Car, Century, PCM, Engine Data
Fri, Nov 12 2004, 14:47
Live Data
Chrysler, 2000-2004 Y-4, 2004, Chrysler, Car, 300M, ENGINE/PCM, 3.5, OEM TESTS,
Fri, Nov 12 2004, 14:46
Fault Codes
Ford, 2000-2005 Y-5, 2005, Ford, Escape, 4X4
ENGINE/PCM, 2.3, Engine Data
Save
Delete
To Top

Figure 2.22: Events to Playback

To Delete a File

Select the event file and then press the DELETE Function key, see *Figure 2.22*.

File Recording

Record Datastream

Press the RECORD Function key to instantly create a file. A frame will be marked with the number zero. 74 frames of data before the zero marker (identified with a negative number) and 75 frames of data after the zero marker will be captured and placed in a file in the Playback folder.

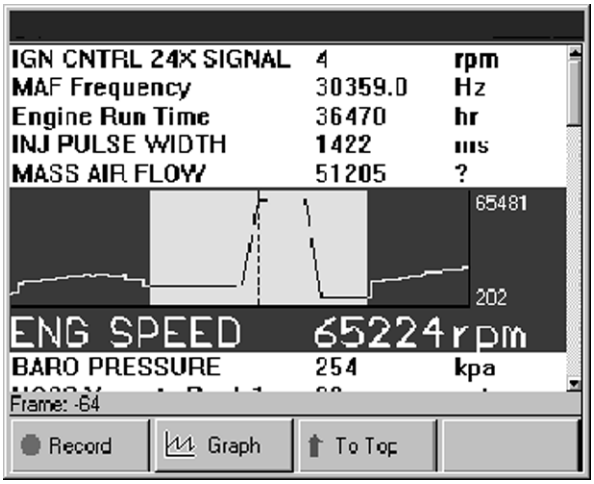


Figure 2.23: Record datastream

Optional: *Continue viewing live data or press MENU to return to the Application Manager Menu to playback the file.*

Rrecord a Failure Record

Select the Failure Record and press the SAVE Function Key to instantly create a file .

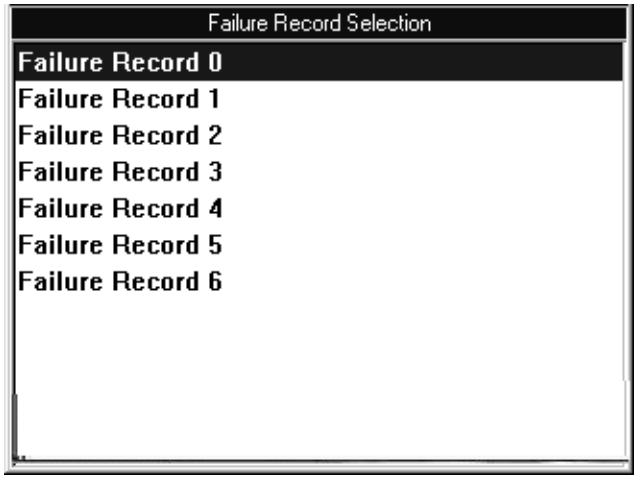


Figure 2.24: Save a Failure Record

Record Diagnostic Trouble Codes

Press the SAVE Function key to instantly create a file for the Diagnostic Trouble Codes generated for a vehicle.

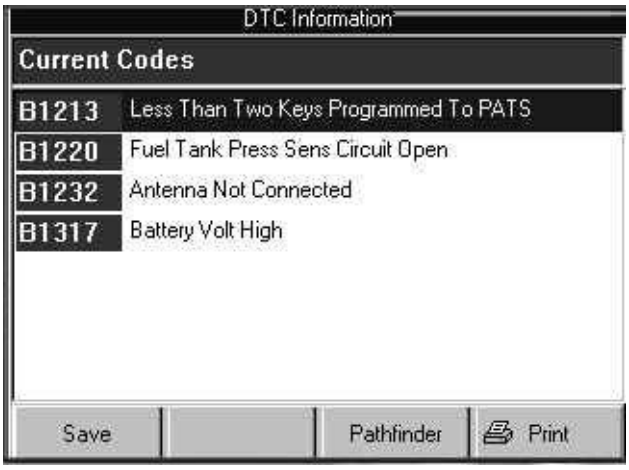


Figure 2.25: Save Diagnostic Trouble Codes

Playback a File

To playback, follow these steps

1 If playback is desired: Select Playback, and then press ENTER.

2 Select a file from the list to view, and then press ENTER.

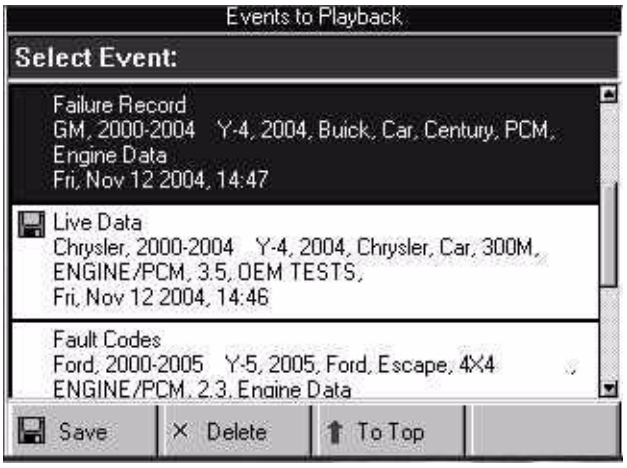

Events to Playback
Select Event:
Failure Record
GM, 2000-2004 Y-4, 2004, Buick, Car, Century, PCM, Engine Data
Fri, Nov 12 2004, 14:47
Live Data
Chrysler, 2000-2004 Y-4, 2004, Chrysler, Car, 300M, ENGINE/PCM, 3.5, OEM TESTS,
Fri, Nov 12 2004, 14:46
Fault Codes
Ford, 2000-2005 Y-5, 2005, Ford, Escape, 4X4
ENGINE/PCM, 2.3, Engine Data
Save
Delete
To Top

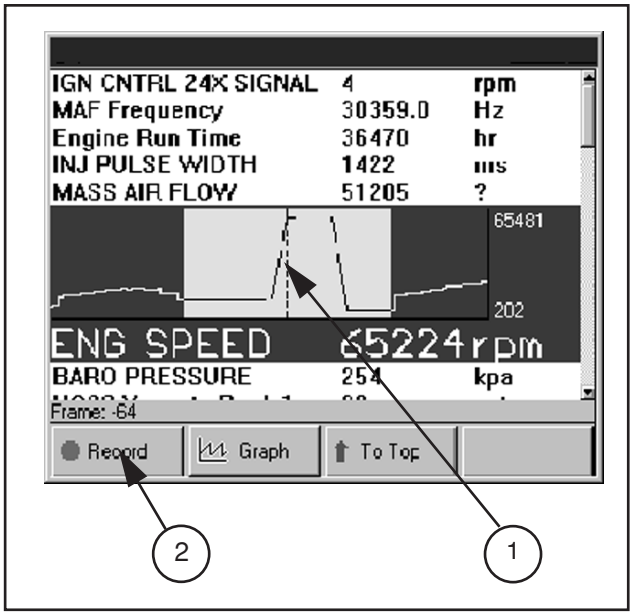
Figure 2.26: List of Events for Playback

3 Press the left or right side of the Direction key to view each frame in sequence. The vertical 'cross-hair" in the graph will move to visually indicate the exact frame for a particular point in time, see *Figure 2.27* on page 17. The graphed data will be magnified when the cross-hair moves across each frame.

4 You can also scroll up or down in the recorded file to select different data items to graph, simply highlight the data item and press the Graph function key.

5 Press EXIT to return to the Events Playback Menu when finished viewing the recorded data.

6 Press EXIT again to return to the Pathfinder program.



Item 1 Press the left or right side of the Direction key to view each frame in sequence.

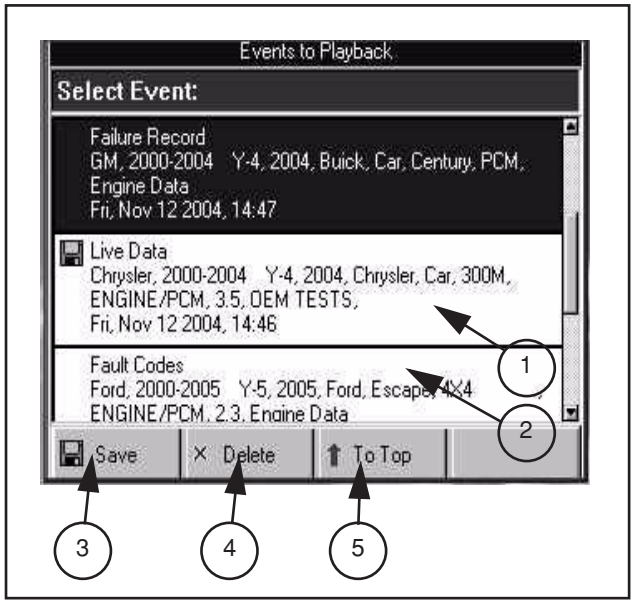
Item 2 Record Function Key

Figure 2.27: Sensor List

To save a recorded file, follow these steps:

1 Press MENU to go to the Application Manager Menu, select Playback, and then press ENTER.

2 Select the event file, and then press the SAVE Function key. A disc icon will appear to the left of a saved file.



Item 1 Saved Event

Item 2 Event not saved

Item 3 Save Function

Item 4 Delete Function

Item 5 Move Event to Top of List

Figure 2.28: Events to Playback

Delete a Recorded File

To delete a file, select the event file, and then press the DELETE Function key, see *Figure 2.28*.

Freeze Frame

The Freeze Frame function instantly “freezes” the data stream as it is viewed. The data can be viewed frame-by-frame as the vertical “cross-hair” is moved to visually indicate the exact frame for a particular point in time, see *Figure 2.29*. The graphed data will be magnified when the cross-hair moves across each frame.

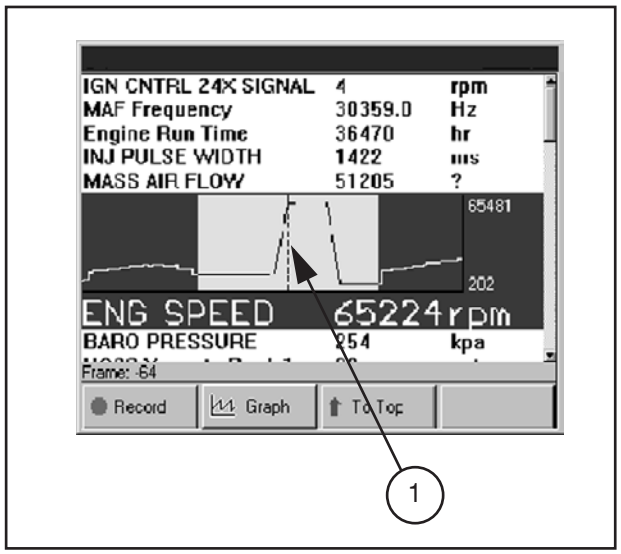
To “Freeze” data, follow these steps:

1 Press the DIRECTION key left to move the vertical “cross-hair”. The vertical cross-hair will move to visually indicate the exact frame for a particular point in time, see *Figure 2.29*. The graphed data will be magnified as the cross-hair is moved left or right across the graph.

2 Continue to press the left or right side of the directional key to move back or forward frame-by-frame.

3 Record the data, if desired, by simply pressing the RECORD key.

4 Press EXIT to resume live data graphing.



Item 1 Freeze Frame point-in-time Indicator (“cross-hair”)

Figure 2.29: Freeze Frame

Graphing

The Graphing function visually displays the sensor data in a continuously updated graph. Data is displayed in a graph format and digital read-out.

More about Graphing

Sensor data is displayed in two windows: a past activity window and a magnified live activity window. Within the magnified window a dotted line “cross-hair” can be moved over the data to freeze and magnify any part of the captured data. As data is graphed, the minimum and maximum measurements are displayed along with the actual measurement, see Fig. *Figure 2.30* on page 19. Switch data is displayed in an On/Off on-screen LED.

To graph sensor or switch data, follow these steps:

1 Select the switch or sensor to graph, and then press the GRAPH function key, see *Figure 2.30* on page 19.

2 Press the GRAPH function key again to toggle the graph function Off or toggle to an Analog meter.

LED Bar

The LED Bar is a set of five switches frequently monitored on all vehicles. These switches are Park/Neutral (P/N), Torque Converter Clutch (TCC), Air conditioning (A/C), O2 sensor (rich or lean) and Operating Loop indicators (open or closed). The LED Bar is grouped and displayed in a single On/Off on-screen LED format. The switch is active only if it is available in the data stream viewed.

LED Bar Activation

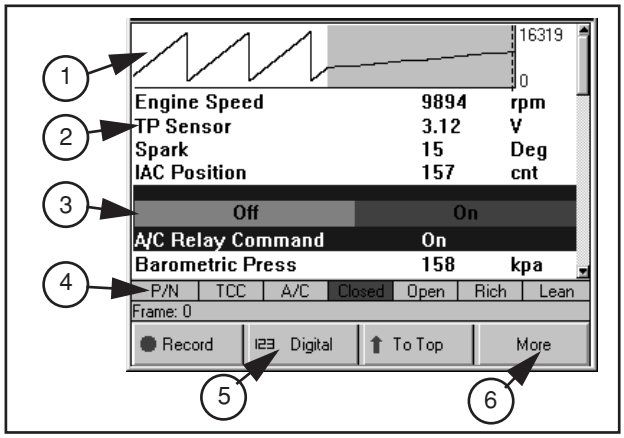
To view the LED Bar, Click **F4 More > Show LED Bar**. The LED Bar will appear at the bottom of the display, see *Figure 2.30* on page 19.

Switch LED

The Switch LED is displayed in a single bar that visually shows when the switch opens or closes.

Switch LED Activation

To view the Switch LED, Click F2 LED when it is available. The Switch LED will appear on the display.



Item 1 Sensor shown as graph

Item 2 Digital Data

Item 3 Switch shown as on-screen LED

Item 4 LED Bar

Item 5 Graph/Digital/Analog/LED function key

Item 6 More function key

Figure 2.30: Sensor Graph

Analog meters

The Analog Meter show the data in a gauge format with the minimum and maximum measurements displayed along with the actual measurement. As many as three analog graphs may be displayed on the same screen.

To view sensor data as an analog gauge, follow these steps:

1 Select the sensor you want to display as an Analog Meter.

2 Press the Digital/Graph/Analog function key to display.

Note: *The Digital Data and Analog Meter remain on screen. To remove the Analog Meter, select the corresponding Digital Data item and press F2 Digital.*

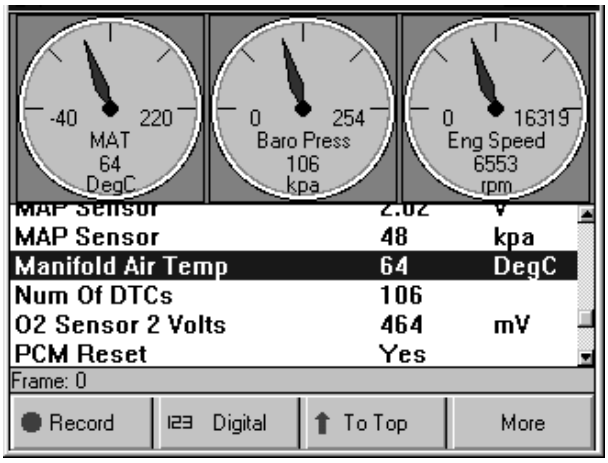


Figure 2.31: Analog Meter

To Hide Analog Meters

To hide the Analog Meters, Click **F4 More > Hide Analog Meters**.

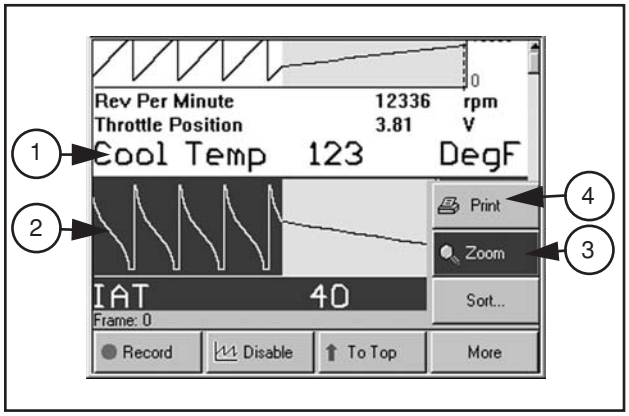
Zoom Graph

The Zoom function magnifies the label and the graph display.

To zoom a sensor label or graph, follow these steps:

1 Select the sensor label or graph, and then press the MORE function key.

2 Select ZOOM, and then press ENTER to increase or decrease the selected sensor view.



Item 1 Digital Data magnified (Zoom)

Item 2 Graph magnified (Zoom)

Item 3 Zoom Magnification

Item 4 Print function

Figure 2.32: Zoom Function

Print

The Print function key sends data to the attached printer.

Tip: A print template that places up to six lines of information, such as the name of your shop, telephone number and any other information desired, can be placed at the top of each printed report. Select Printer Header in the Application Manager SYSTEM SETUP.

Printer Activation

To print data, simply press the PRINT function key. If you are printing to an infrared printer, be sure to point the tool infrared window at the printer infrared port. Do not move the tool away until the print is completed. For additional information, see Printer Operation in your Next Generation Information System User Guide

Sensor Display Configuration

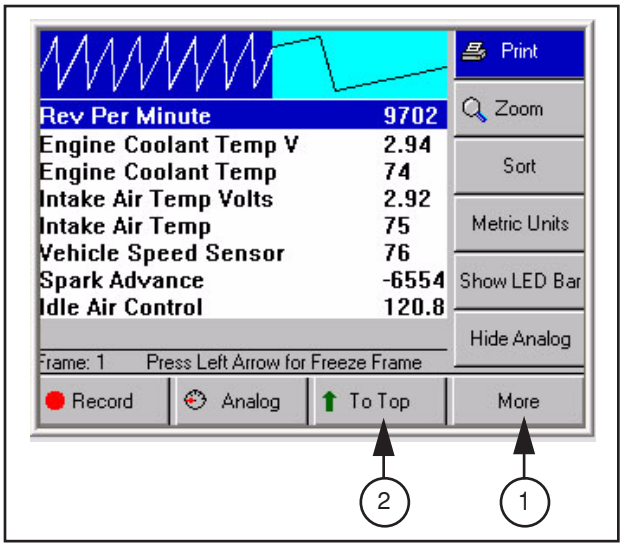
The display sequence of the vehicle sensors is easily re-arranged to allow the configuration of a grouping of sensors at the top of the screen for convenient side-by-side viewing.

How to Position Sensors

To reposition a sensor, select the sensor, and then press the TO TOP function key. Each sensor selected is positioned to the top of all remaining sensors.

To sort a list of sensors, follow these steps:

1 The sensor list can be ordered alphabetically or by all graphed sensors. Press the MORE Function key, press SORT, and then press ENTER.



Item 1 Sort sensors

Item 2 Position sensor to the top of the list

Figure 2.33: Sort Sensor

2 Select a method to sort the list of sensors, and then press ENTER.

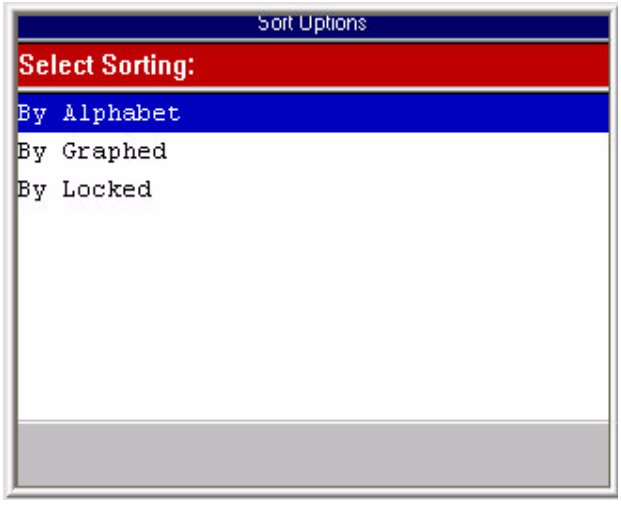


Figure 2.34: Sort Menu

GM Diagnostic State

The GM Diagnostic States are test states utilized by the vehicle computer. The Road Test state is normally used for diagnostic testing but three additional states (Field Service, Backup Fuel and ALDL) are also available to check codes, serve as a backup fuel setting or function as a service setting.

More about Road Test State

The Road Test State is normally used for diagnostic testing. It does not include a preset test idle speed or additional advance. It is available on most vehicles. Use this state to diagnose drivability problems whenever possible.

More about Field Service State

The Field Service State is used to verify a Diagnostic Trouble Code (DTC) or Oxygen Sensor (O2) reading.

This service state grounds the vehicle Diagnostic Link and triggers two sets of codes:

- Diagnostic codes that can be interpreted from the flashes received from the vehicle CHECK ENGINE lamp; and,
- The Oxygen Sensor (O2) setting, which can be interpreted from the length of time the CHECK ENGINE light is on or how many times per second it flashes.

How to read Diagnostic Codes from the CHECK ENGINE lamp:

To read Diagnostic codes from the CHECK ENGINE lamp, turn the vehicle key on, engine off. Consult your vehicle service manual to interpret the lamp flashes.

How to read Oxygen Sensor settings from the CHECK ENGINE lamp:

To read Oxygen Sensor settings from the CHECK ENGINE lamp, start the engine and look at the CHECK ENGINE lamp for two types of data:

- Open/closed Loop - the CHECK ENGINE lamp will flash two times a second during open loop or flash once a second during closed loop.
- Lean/rich - If the lamp is On longer than Off, the engine is running rich. If the lamp is Off longer than On, the engine is running lean. If the On time and Off time are equal, an ideal 14.7 to 1 air fuel ratio is being maintained.

More About Back-Up Fuel State

The Back-Up Fuel State supplies injector pulses for the fuel injectors and base timing is set if the Programmable Read Only Memory (PROM) chip has failed. The Back-up Fuel State allows a disabled vehicle to keep running until it can be repaired. Vehicle service manuals refer to this state as “3.9 K Ohm State” or “Factory Test State.” You cannot view sensor outputs or other data in this state.

More About ALDL State

The ALDL state automatically sets a test idle speed and additional ignition advance if Road Test data is unavailable or unreliable. Vehicle service manuals may also refer to this state as “10 K Ohm State” or “Special State.”

How to Activate a GM Diagnostic State:

To activate a Diagnostic State, select Diagnostic States from the MAIN DIAGNOSTIC MENU. Diagnostic states available for the vehicle in test will appear, select the Diagnostic State required.

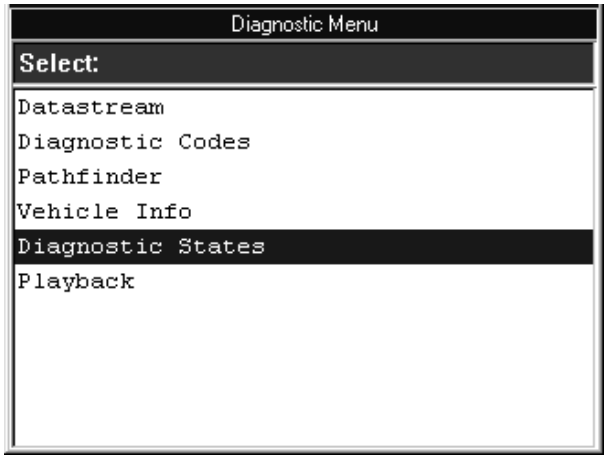


Figure 2.35: Main Diagnostic Menu

Diagnostic Code Information

Diagnostic testing is performed by the vehicle management system. The vehicle computer monitors the system and performs active tests when passive tests fail. When a failure occurs, a diagnostic code is generated and saved in the vehicle computer in one of two ways: as a Pending diagnostic code; or as a Current diagnostic code that is reporting a condition that must be repaired. There are also many diagnostic codes that are not reported as a Current code unless they have been detected two or three times on sequential ignition cycles.

To view the Diagnostic Diagnostic Codes saved in the vehicle computer, select Diagnostic Codes from the Diagnostic Menu. The following menu choices make additional code information functions available:

- Read Codes that have been recorded, see "**Read/Current Codes**" on page 23.
- Pending Codes that have occurred but are not considered a malfunction yet, see "**Pending Codes**" on page 23
- Freeze Frame to see a frame of sensor data captured when a diagnostic code was set, see "**Freeze Frame**" on page 24
- Ford Self-Diagnostic tests and On-Demand tests are a group of diagnostic tests activated by the vehicle. At the completion of the test cycle, diagnostic codes or errors are displayed, see "**Key-On, Engine-Off Self-Test**" on page 26

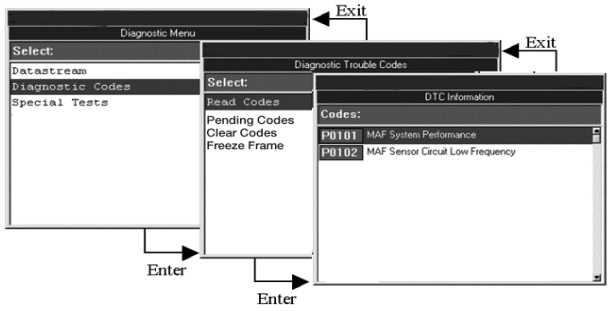


Figure 2.36: Diagnostic Code Overview

Read/Current Codes

Read Codes or Current Codes are vehicle faults that have been recorded as a Diagnostic Trouble Code in the vehicle computer. This type of code is considered a Current Code and must be repaired.

Note:

General Motors codes are listed as A, B, C or D in order of importance for repair.

Note:

A timer is posted on the display for systems that transmit codes slowly and require a waiting period. The timer must be allowed to expire before codes can be reviewed or printed.

To view Diagnostic Trouble Codes, follow this path:

- GM/ Saturn > Diagnostic Trouble Codes > Read Codes > **Current Codes**
- OBD II/Ford/Chrysler/Jeep > Diagnostic Trouble Codes > **Read Codes**

Menu Reference

- **Current Codes:** GM or Saturn
- **Read Codes:** OBD II, Ford, Chrysler or Jeep

Pending Codes

Pending Diagnostic Trouble Codes are diagnostic codes that have been recently recorded in the vehicle Power Control Module but are not considered as a malfunction until the same code is recorded on two, or more, sequential drive cycles. The Pending Codes option can be used to check recent repairs because it will show Diagnostic Trouble Codes reported after a single drive cycle. Choose OBD II as a vehicle system to view pending codes for any vehicle, domestic or imported, equipped with the OBD II emissions standard system.

To view Pending Diagnostic Trouble Codes, follow this path:

OBD II > Diagnostic Trouble Codes > **Pending Codes**

Menu Reference

Pending Codes: OBD II and Ford

Fail Since Clear Codes

The Fail Since Clear option displays all diagnostic trouble codes and all pending diagnostic trouble codes recorded in the vehicle computer since the last time diagnostic trouble codes were cleared from the vehicle computer.

To view Diagnostic Trouble Codes recorded since codes were cleared, follow this path:

GM/Saturn > Diagnostic Trouble Codes > Read Codes > **Fail Since Clear**

Menu Reference

Fail Since Clear: GM or Saturn

Clear Codes

Clear Codes is a function that erases diagnostic trouble codes from the vehicle computer. If Clear Codes is not shown on the menu as an available option, consult the vehicle service manual for the vehicle manufacturer's specified "clear code" method.

To clear codes, follow this path:

1 OBD II/GM/Saturn/Ford/Chrysler/Jeep > Diagnostic Trouble Codes > **Clear Codes**.

2 Follow the on-screen instructions as the scan tool clears diagnostic codes from the vehicle computer. If any codes remain, select the CLEAR option once more. Make sure the ignition key is on, the engine off when erasing codes.

*Tip: Clearing diagnostic codes will also clear freeze frame information, PCM learned values, and the inspection/maintenance flags. If you are in an inspection/maintenance 240 area, verify that all readiness status flags are set (see "**Readiness Status**" on page 31) before returning the vehicle to the customer.*

GM Supplemental Inflatable Restraint (S.I.R.) Note: Supplemental Inflatable Restraint (S.I.R.) diagnostic code 52 cannot be cleared from the vehicle computer memory. This diagnostic code indicates that the air bag has been deployed. All other codes will be cleared and the S.I.R. dash warning light will be turned off.

Menu Reference

Clear Codes: All vehicles

Freeze Frame

The Freeze Frame option shows a frame of sensor data that is captured at the moment a diagnostic code is set in the vehicle computer.

To view Freeze Frame data, follow this path:

1 OBD II > Diagnostic Codes > **Freeze Frame**

2 If only one Powertrain Control Module (PCM) is available, the freeze frame data stream information will be displayed. If there are multiple PCMs, select the PCM from which you wish to view the data stream.

Menu Reference

OBD Freeze Frame: OBD II

Diagnostic Trouble Code Status

Diagnostic Trouble Code (DTC) information and history for the vehicle is tracked and stored in the vehicle computer. After performing a repair, the technician can test the vehicle and see immediately if the repair was successful. An intermittent fault can also be determined if an ignition passed but the other tests failed.

To Read DTC Status, follow this path:

1 GM, Saturn > Diagnostic Trouble Codes > Read Codes> **DTC Status**.

2 Select a DTC, press ENTER to view the description and status information.

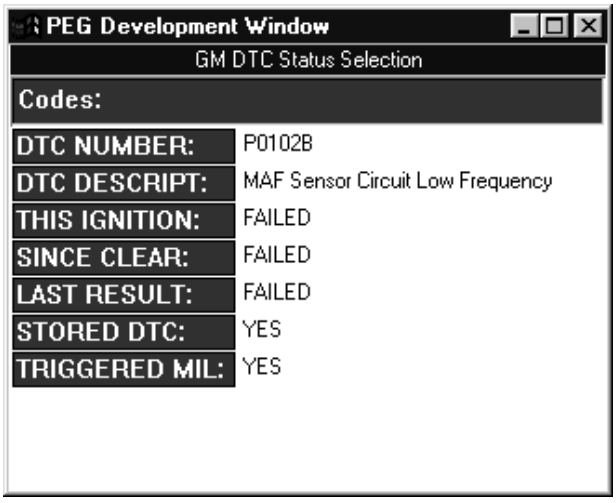


Figure 2.37: Diagnostic Trouble Code Status

Menu Reference

DTC Status: GM, Saturn

Failure Records

The Failure Records and a Freeze Frame for a diagnostic trouble code stored in the vehicle computer can be viewed. The Failure Records show a "snapshot" of key data item conditions at the time the diagnostic trouble code was set. The Freeze frame shows a "snapshot" of generic emission data item conditions at the time the diagnostic code was set.

To view Failure Records, follow this path:

1 GM, Saturn > Diagnostic Trouble Codes > Read Codes > **Failure Records**.

2 Select the Freeze Frame or the Record to view, press ENTER.

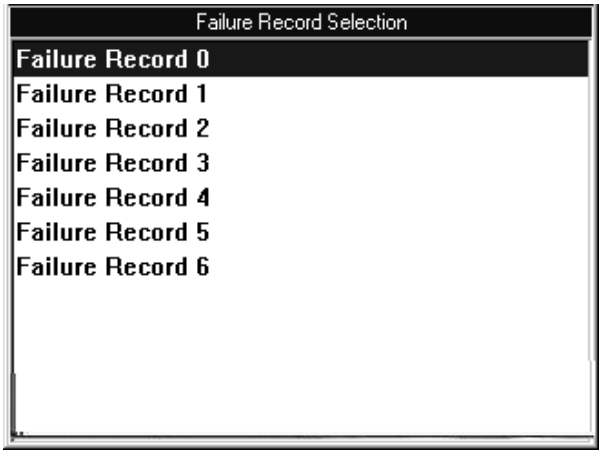


Figure 2.38: Failure Record Select

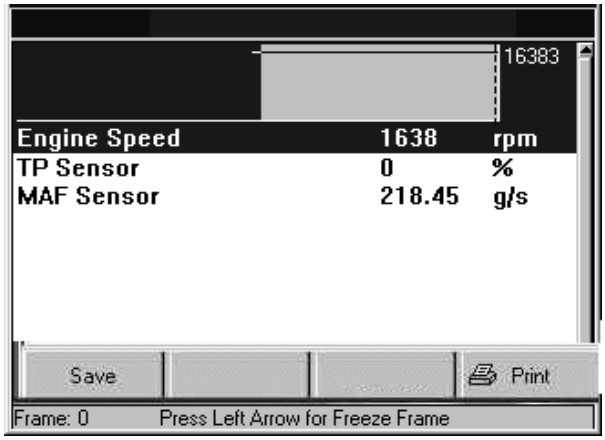


Figure 2.39: Failure Record

Menu Reference

Failure Records: GM, Saturn

SELF DIAGNOSTICS

The Self-Diagnostics tests are a group of diagnostic tests activated and managed by the vehicle. At the completion of a test cycle, diagnostic codes or errors are displayed. The Self-Diagnostics menu displays a group of Key-on Engine-off (KOEO) and Key-on Engine-running (KOER) self-diagnostic tests that are available to be activated on demand.

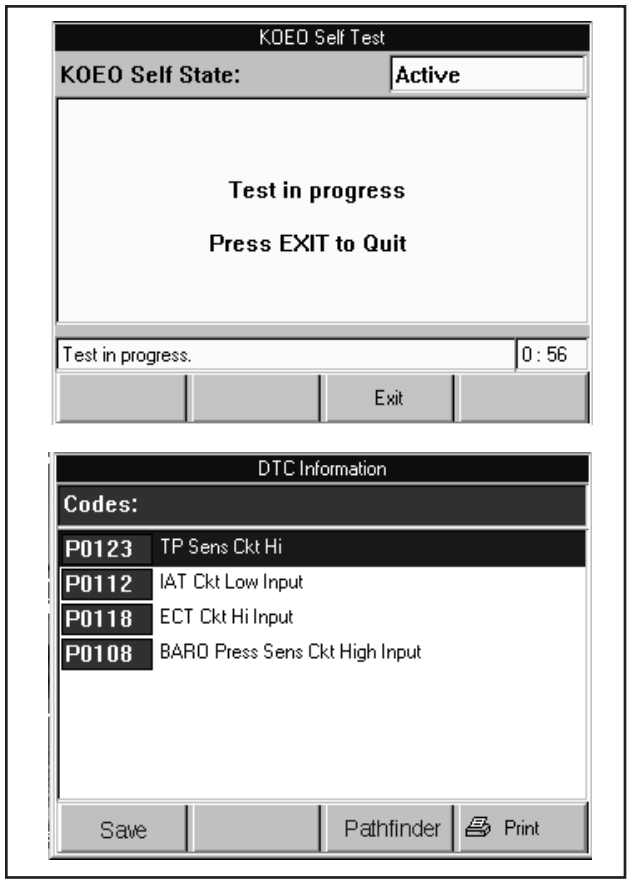


Figure 2.40: KOEO Self Diagnostics Test

To view Self Diagnostics Tests, follow this path:
Ford > Diagnostic Trouble Codes > **Self-Diagnostics**

Menu Reference

Self-Diagnostics: Ford

.

Key-On, Engine-Off Self-Test

The Key-On, Engine-Off (KOEO) Test reads codes recorded in the vehicle computer (Current Codes or Keep Alive Codes) and codes recorded at the time of the test (On-Demand Codes or Hard Fault Codes).

More About the KOEO Self-Test

Warning:

- **The vehicle fans will turn on approximately 10 to 15 seconds after the test has begun. Keep hands and cables away from all fans located under the hood.**

When the KOEO Self-Test is activated, the status of the sensors and switches on the vehicle are displayed. A timer will count down the time remaining for the test. Any diagnostic trouble codes located are displayed after the test is completed.

To activate the KOEO self-test, follow this path:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **KOEO Self-Test.**

2 Follow all on-screen instructions. Faults will be reported as diagnostic trouble codes.

3 The KOEO Self-Test is a timed test. If the test goes beyond the time limit, wait 10-15 seconds to allow any codes to appear. If no codes appear, press EXIT and then rerun the KOEO test.

Menu Reference

KOEO self-test: Ford

Key-On, Engine-Off Injector Buzz

The Injector Buzz test activates the fuel injectors which, when activated, produce a buzzing sound. The KOEO Injector Buzz Test activates all injectors first and then each injector individually. Follow all on-screen instructions. Faults will be reported as diagnostic trouble codes after the test is completed.

To activate the KOEO Injector Buzz test, follow this path:

Ford > Diagnostic Trouble Codes > Self-Diagnostics > **KOEO Injector Buzz**

Menu Reference

KOEO Injector Buzz: Ford

Key-On, Engine-Off Output State

The KOEO Output State test causes the output relays to toggle between their highest voltage and ground.

Follow the on-screen instructions. Faults will be reported as diagnostic trouble codes after the test is completed.

To activate the KOEO Output test, follow this path:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **KOEO Output State**.

2 To begin the KOEO Output Test, press the accelerator pedal to toggle the output relays.

Menu Reference

KOEO Output State: Ford

Key-On, Engine-Running Self-Test

The Key-On, Engine-Running (KOER) Test reads codes recorded in the vehicle computer (Current Codes or Keep Alive Codes) and codes recorded with the engine running (On-Demand Codes or Hard Fault Codes).

More About the KOER Self-Test

Warning:

- **During the KOER test, keep hands and cables away from any fans and moving belts to help prevent bodily injury or equipment damage.**

When the KOER Self-Test is activated, the status of the sensors and switches on the vehicle are displayed. A timer will count down the time remaining for the test. Any diagnostic trouble codes located are displayed after the test is completed.

To activate the KOER Output test, follow this path:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **KOER Self-Test**.

2 Follow all on-screen instructions. Faults will be reported as diagnostic trouble codes.

The KOER Self-Test is a timed test. If the test goes beyond the time limit, wait 10-15 seconds to allow any codes to appear. If no codes appear, press EXIT and then rerun the KOER test.

Menu Reference

KOER self-test: Ford

Key-On, Engine-Running Glow Plug Test

The Key-On, Engine-Running (KOER) Glow Plug test activates a self-test that exercises the glow plug and any related circuits.

Important:

- **The battery voltage must be maintained during this test.**

To start the Glow Plug test, follow these steps:

1 Connect a digital voltmeter to the vehicle battery terminals to monitor the voltage.

2 Turn the air conditioning, the auxiliary power train control (RPM control) and all accessories off.

3 Place the transmission in Park or Neutral, and then start the engine.

4 Increase the engine speed, if necessary, to maintain the voltage between 11.8 and 14 volts.

5 Follow this path: Ford > Diagnostic Trouble Codes > Self-Diagnostics > **KOER Glow Plug**.

6 Follow any on-screen instructions. Any faults detected will be reported as diagnostic codes.

Menu Reference

KOER Glow Plug: Ford

Key-On, Engine-Running Cylinder Contribution Test

The KOER Cylinder Contribution Test activates a self-test that exercises each engine cylinder to determine if all cylinders are contributing equally. Any weak cylinders detected are reported as diagnostic codes.

To begin the KOER Cylinder Contribution test, follow this path:

Ford > Diagnostic Trouble Codes > Self-Diagnostics > **KOER Cylinder Contribution**.

Menu Reference

KOER Cylinder Contribution: Ford

Key-On, Engine-Running Switch Test

The Key-On, Engine Running (KOER) Switch test causes the switch relays to toggle on and off.

To start the KOER Switch test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **KOER Switch Test**.

2 Press the accelerator pedal and release.

3 Cycle the cruise control to ON, OFF, RESUME, SET/ACCEL, and COAST.

4 Press the emergency brake pedal and release.

5 Press the clutch pedal or Transmission Control Switch and release.

6 Press the brake pedal firmly and release:

- Pressing the brake pedal once after a test step will stop the test and transmit the diagnostic codes.

- To go directly to the step tests, press and release the brake pedal twice after code 50 is transmitted

7 Follow any on-screen instructions. All faults will be reported as diagnostic trouble codes.

Menu Reference

KOER Switch Test: Ford

On Demand Test

The On Demand test activates a KOEO self-diagnostic test that checks the non-engine modules.

To start the On Demand Test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **On Demand Test**.

2 Follow the on-screen instructions. All faults will be reported as diagnostic trouble codes.

Menu Reference

On Demand Test: FordSeat Calibration

The Power Seat Calibration test exercises all of the motors in the driver side power seat and in both side mirrors.

To start the Seat Calibration Test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **Seat Calibration**.

IMPORTANT:

- **Do not sit in the drivers seat during this test. Follow all on-screen instructions. Any faults will be reported as diagnostic trouble codes.**

Menu Reference

Seat Calibration: Ford

Speed Cable Slack

The Speed Cable Slack test applies and releases tension to the speed cable.

To start the Speed Cable Slack Test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **Speed Cable Slack**.

2 Follow any on-screen instructions. Any faults will be reported as diagnostic trouble codes.

Menu Reference

Speed Cable Slack: Ford

Audio Net Test

The Audio Net test activates a self-diagnostic test that checks the audio circuits.

To Start the Audio Net Test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **Audio Net Test**.

2 Follow any on-screen instructions. Any faults detected will be reported as diagnostic codes.

Menu Reference

Audio Net Test: Ford

Accurate Trim

The Accurate Trim test adjusts the ride height to an optimal setting. This test is typically used before measuring the ride height of a vehicle or before wheel alignment.

To Start the Accurate Trim Test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **Accurate Trim**.

2 Follow any on-screen instructions. Any faults will be reported as diagnostic trouble codes.

Menu Reference

Accurate Trim: Ford

Pneumatic Test

The Pneumatic Test pumps up and then vents each rear corner of the vehicle. The ride height is monitored for proper ride height transition.

To start the Pneumatic Test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Self-Diagnostics > **Pneumatic Test**.

2 Follow any on-screen instructions. Any faults will be reported as diagnostic trouble codes.

Menu Reference

Pneumatic Test: Ford

Wiggle Test

The WIGGLE TEST checks for intermittent breaks in connections and for open or short circuits. When a break in the circuit is detected, the scan tool beeps and the text turns red.

To activate the Wiggle Test, follow these steps:

1 Ford > Diagnostic Trouble Codes > Options > **Wiggle Test**.

Figure 2.41: Wiggle test

WARNING:

- **When testing the 7.3L Direct Injection Turbo Charged Diesel, watch for cracked insulation on any red-striped wires; they carry 115 V DC and severe shock may result if they are not in good condition.**

2 Wiggle any wiring and wiring connections or drive the vehicle to recreate the intermittent failure condition suspected.

3 When testing is completed, perform KOEO test to capture any diagnostic codes set.

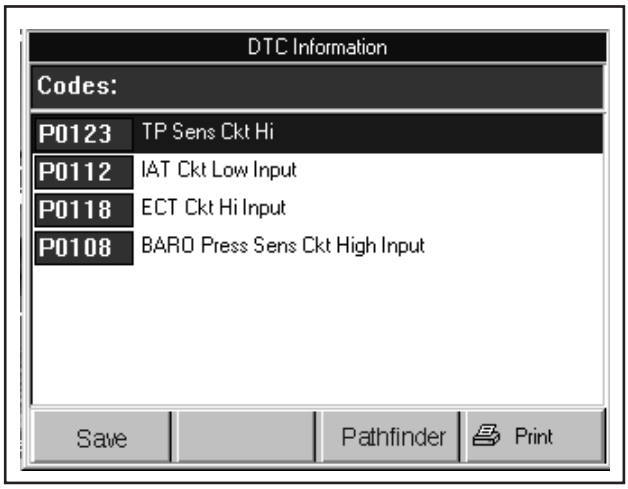


Figure 2.42: DTC Information

Menu Reference

Wiggle Test: Ford

Code History

The Code History reports when hard codes are set or the number of times the engine has been started since an intermittent code was recorded.

To View Code History, follow these steps:

1 Chrysler, Jeep > Diagnostic Trouble Codes > **Code History**.

2 Code History reports one of three conditions:

- Engine Starts = 1: A hard code has been set if the number = 1.
- Engine Starts = 2 or more: This number shows how many times the engine has been started since the intermittent code was set. It also means that the intermittent code is still present and has not gone to a hard code.
- If there are no codes in the code history file, the number of times the engine has been started since the codes were cleared from memory is displayed. The number will go as high as 255.

Faults are listed in the order they were detected by the vehicle computer.

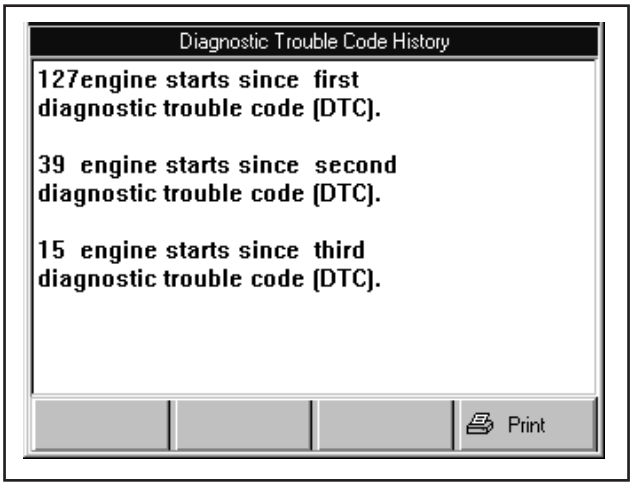


Figure 2.43: Code History

Menu Reference

Code History: Chrysler, Jeep

Trip Counts

The Trip Counts option shows the number of times since the fault was repaired that the engine has been brought up to operating temperature and the vehicle has been driven long enough that critical system conditions have been met.

To View Trip Counts:

1 Chrysler, Jeep > Diagnostic Trouble Codes > **Trip Counts**.

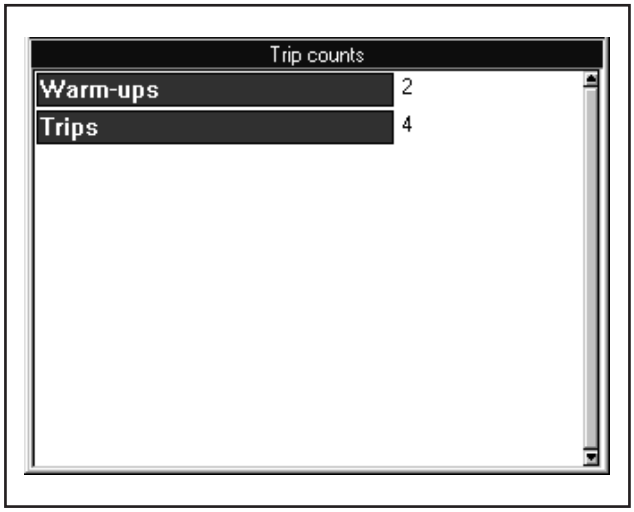


Figure 2.44: Trip Counts

Menu Reference

Trip Counts: Chrysler, Jeep

Special Tests

The Special Tests are a group of specific sensor and system tests. All vehicles are not able to use all of the special tests available. Pathfinder determines the vehicle configuration and then displays only the special tests that can be used for the vehicle.

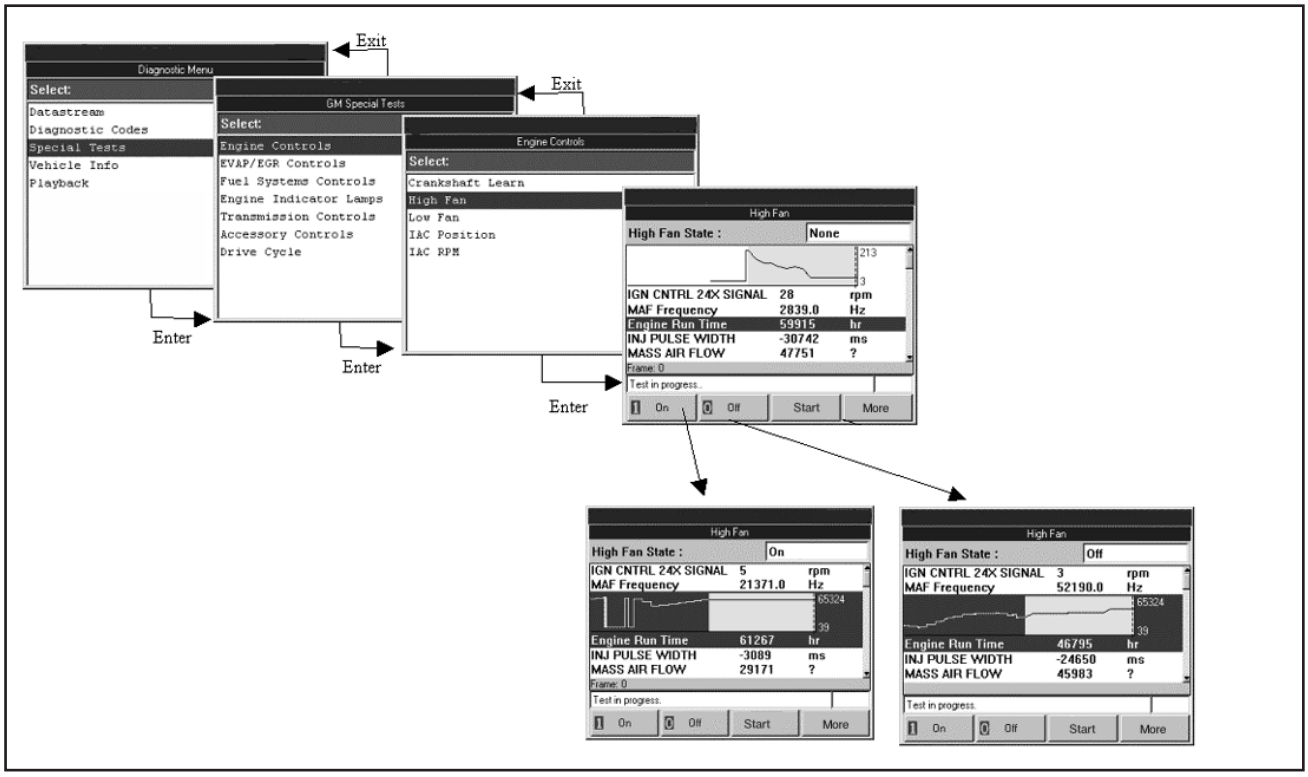


Figure 2.45: Special Tests Overview

To view Special Tests, follow this path:

All Vehicles > Diagnostic Menu > **Special Tests**

Menu Reference

Special Tests: All vehicles

Readiness Status

The Readiness Status determines the number of Power Control Modules active and which Vehicle System Monitors have completed their tests.

More About Readiness Status

Two types of Vehicle Systems Monitors are used to test vehicle systems:

- Non-Continuous Vehicle System Monitors: A test routine that is activated once per drive cycle.
- Continuous Vehicle System Monitors: A test routine that is activated continuously during a drive cycle.

The Readiness Status test determines which Power Control modules are used on the vehicle, and then it determines which System Monitor tests are completed (ready), not completed (not ready) or failed.

To activate a Readiness test, follow these steps:

1 Select one:

- GM/Saturn/Ford/OBD II > Special tests > **Readiness Status**
- Chrysler/Jeep > OBD II > Special tests > **Readiness Status**

2 Start the vehicle engine.

3 If there are multiple Power Control Modules (PCM), select the PCM from which you want to view the data stream (some vehicles may have only one Power Control module), and then press ENTER

4 Select a Vehicle System Monitor Readiness Status test.

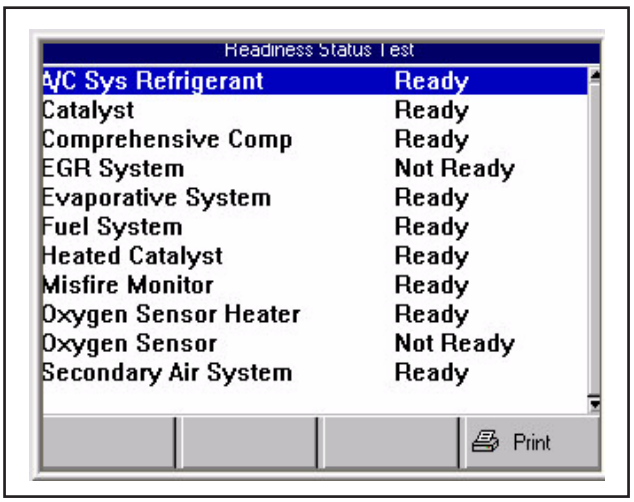


Figure 2.46: Readiness Status Test

All of the Continuous and Non-Continuous System Monitor tests will be displayed for the Power Control module. The tests will be identified as Ready, Not Ready or Not Available (N/A). If the test is labeled Ready, all drive cycle conditions have been met and sensor tests completed. If a test is Not Ready, see "**Drive Cycle**" on page 32 to determine the drive cycle procedure required for completion of each Non-Continuous Vehicle System Monitor test.

Menu Reference

Readiness Status: All vehicles

Drive Cycle

Drive Cycle describes the vehicle manufacturer's specified drive cycle steps each Vehicle System Monitor must follow when it conducts tests to determine if a system or component is operating to specifications.

To select Drive Cycle, follow these steps:

1 Select one:

- GM/Saturn/Ford > Special tests > **Drive Cycle**
- Chrysler/Jeep > OBD II > Special tests > **Drive Cycle**

2 Select a Vehicle System Monitor Drive Cycle description. Perform the test description to activate and complete the Vehicle System Monitor test.

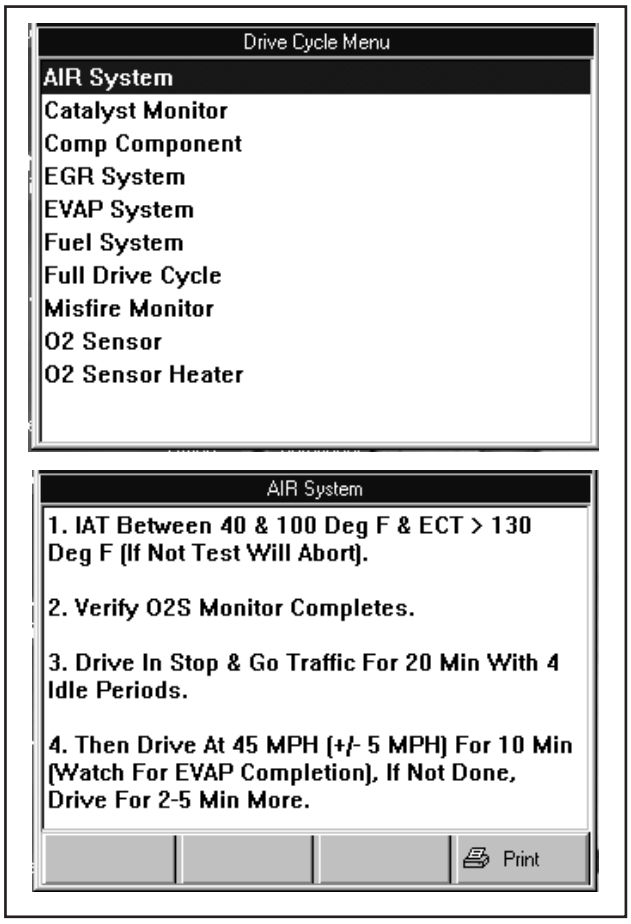

Drive Cycle Menu
AIR System
Catalyst Monitor
Comp Component
EGR System
EVAP System
Fuel System
Full Drive Cycle
Misfire Monitor
O2 Sensor
O2 Sensor Heater
AIR System
1. IAT Between 40 & 100 Deg F & ECT > 130 Deg F (If Not Test Will Abort).
2. Verify O2S Monitor Completes.
3. Drive In Stop & Go Traffic For 20 Min With 4 Idle Periods.
4. Then Drive At 45 MPH (+/- 5 MPH) For 10 Min (Watch For EVAP Completion), If Not Done, Drive For 2-5 Min More.
Print

Figure 2.47: Drive Cycle

Menu Reference

Drive Cycle: All vehicles

Oxygen Sensor (O2) Test

The Oxygen Sensor (O2) option shows sensor data for each bank (driver's side and passenger side or engine front and engine rear) of O2 sensors on the vehicle.

More About Oxygen Sensor Testing

The Oxygen Sensor test will check for more than one bank of O2 sensors. If there is more than one, the voltage will be displayed for each sensor on each bank (see "**O2 Sensor Labels**" on page 33).

Important: Warm the engine to operating temperature before testing.

To view Oxygen Sensors, follow these steps:

1 OBD II/GM/Saturn > Special tests > **O2 Tests. If** there is more than one O2 sensor, select a sensor bank to view.

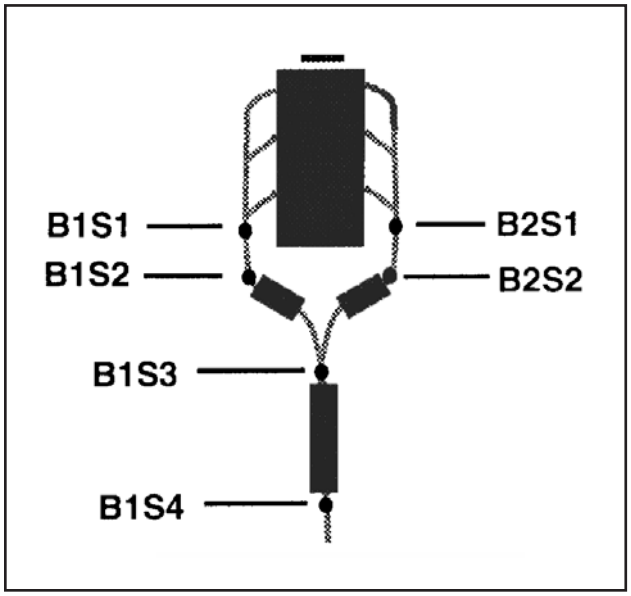


Figure 2.48: O2 Sensor Labels

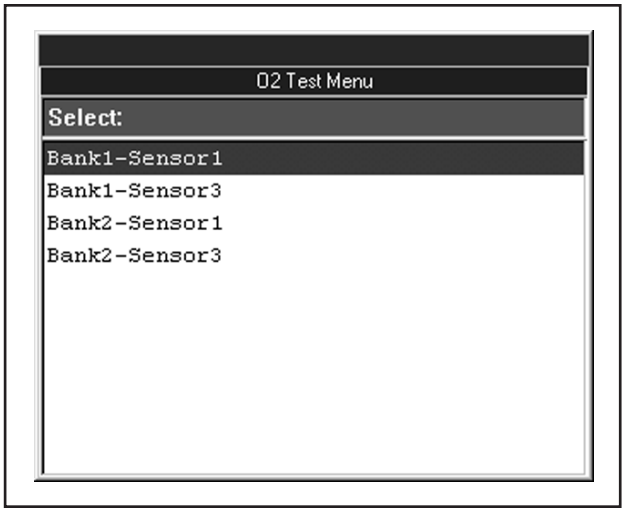


Figure 2.49: O2 Sensor Select

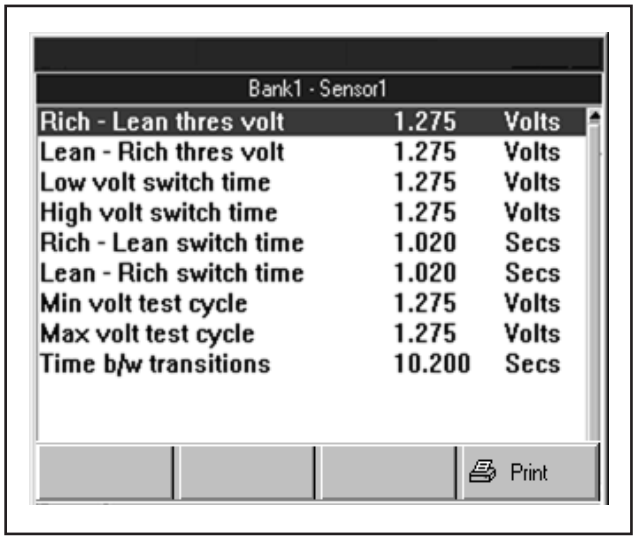

Bank1 - Sensor1
Rich - Lean thres volt 1.275 Volts
Lean - Rich thres volt 1.275 Volts
Low volt switch time 1.275 Volts
High volt switch time 1.275 Volts
Rich - Lean switch time 1.020 Secs
Lean - Rich switch time 1.020 Secs
Min volt test cycle 1.275 Volts
Max volt test cycle 1.275 Volts
Time b/w transitions 10.200 Secs
Print

Figure 2.50: O2 Sensor Display Data

Menu Reference

O2 Tests: OBD II, GM or Saturn

Component Parameters

The Component Parameters option shows the current value for components or systems that are not continuously monitored; for example, a catalyst or evaporative system.

More About Component Parameters

The Component Parameters option shows as many as three component measurements:

- current value,
- minimum or maximum specified value,
- minimum and maximum specified values.

The Component Parameter test will show if the test is not complete (Not Ready), if it is completed (Ready) and if a value is out of range (+OUT+).

All System Monitor tests must be complete before valid data is available for component testing. Before selecting the Component Parameter option, you can select the "**Readiness Status**" on page 31 to determine if all Vehicle System Monitors have completed testing.

Note: *A System Monitor test will not run until the vehicle has correctly completed the required System Monitor Drive Cycle (refer to "**Drive Cycle**" on page 32 for more information about system monitor drive cycles).*

To view the Component Parameters, follow these steps:

1 OBD II > Special tests > **Component Parameters**

2 Press the Start function key to begin.

3 Press the function key to view the next component.

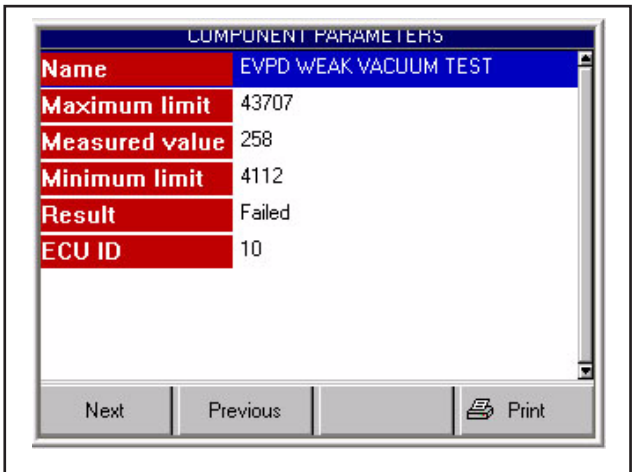


Figure 2.51: Component Parameters

Menu Reference

Component Parameters: OBD II

OUTPUT CONTROLS

The Output Control options permit toggling the engine computer controlled output switch actuators on or off for the Hi Speed Fan, Low Speed Fan and all Output Switches.

To view the Output Controls, follow these steps:

1 Ford > Special tests > **Output Controls**.

2 Press the Start function key to begin.

3 Press the function keys to toggle the output switch.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

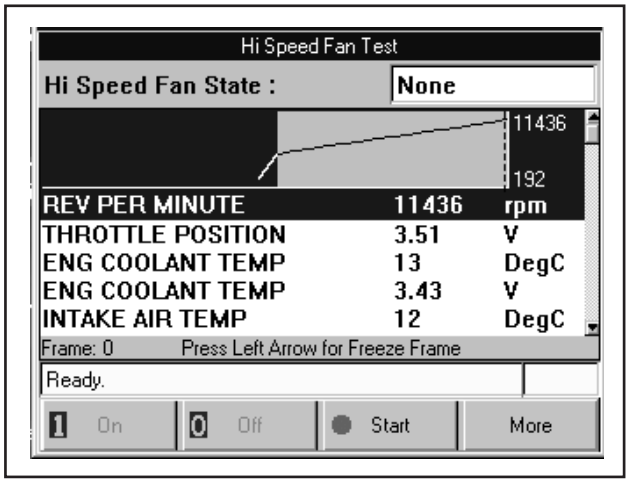


Figure 2.52: Output Control

Menu Reference

Output Controls: Ford

High Speed Fan On

The Hi Speed Fan On option will turn on all of the high speed fans that are controlled by the engine computer.

⚠ Warning:

- **This test will activate fans. Be sure there is adequate clearance to avoid catching clothing or cables on a fan blade.**

To view the High Speed Fan switching on or off, follow these steps:

1 Ford > Special tests > Output Controls > **Hi Speed Fan On**.

2 Press the Start function key to begin.

3 Press the function keys to toggle the switch.

Menu Reference

Hi Speed Fan On: Ford

Low Speed Fan On

The Low Speed Fan On option will turn on all of the low speed fans that are controlled by the engine computer.

Warning:

- **This test will activate fans. Be sure there is adequate clearance to avoid catching clothing or cables on a fan blade.**

To view the Low Speed Fan switching on or off, follow these steps:

1 Ford > Special tests > Output Controls > **Low Speed Fan On**.

2 Press the Start function key to begin.

3 Press the function keys to toggle the switch.

Menu Reference

Low Speed Fan On: Ford

Turn All Outputs On

The All Outputs On option will turn on all of the output switches controlled by the engine computer.

Warning:

This test may activate the vehicle fuel pump. If you are testing pressure and volume of the fuel flow system, be sure to observe the following precautions:

- **Wear approved eye protection at all times.**
- **Release fuel system pressure before servicing the fuel system components.**
- **To avoid spilling fuel on the engine, wrap a shop towel around the pressure tap fittings when connecting or disconnecting adapters. Pressurized fuel can create a fire hazard. Dispose of the shop towel correctly.**
- **Observe normal precautions for working with flammable liquids. No smoking, open flames, electrical sparks, etc.**
- **Have a Class B fire extinguisher available while working on fuel systems.**

To view all of the outputs switched on or off, follow these steps:

1 Ford > Special tests > Output Controls > **All Outputs On**.

2 Press the Start function key to begin.

3 Press the function keys to toggle the outputs.

4 Press the EXIT key to turn all outputs off.

Menu Reference

All Outputs On: Ford

ENGINE CONTROLS

The Engine Controls option permits manual activation of the Starter Inhibit Control, Spark Retard Control, Idle Air Control (IAC) RPM, Idle Air Control (IAC) Position, Low Fan, High Fan, Cooling Fan, Crankshaft Learn and Air Pump engine control devices. Only those devices found on the test vehicle will be listed.

To view the Engine Control devices, follow these steps:

1 GM/Saturn > Special tests > **Engine Controls**.

2 Select the engine control device from the Engine Controls menu.

3 Press the Start function key to begin.

4 Press the function keys to adjust the device setting or to toggle the control output switch.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

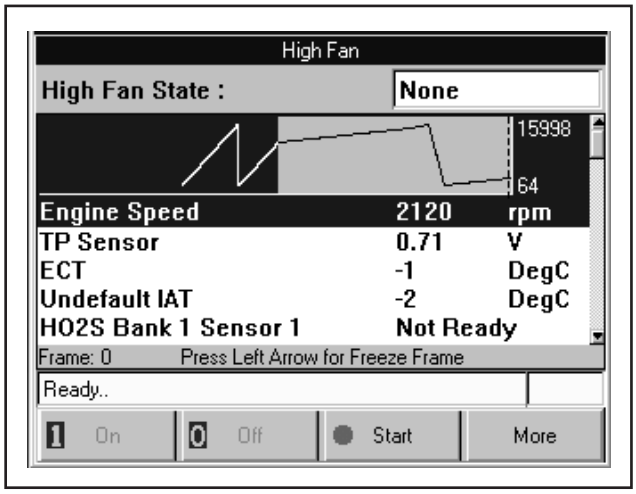


Figure 2.53: Engine Control

Menu Reference

Engine Controls: GM or Saturn

Air Pump Control

The Air Pump option activates the air pump for 30 seconds. If the air pump is operational, the closed fuel loop will go lean and react to the lean condition by enriching the fuel mixture.

To activate the Air Pump Control, follow these steps:

1 GM/Saturn > Special tests > Engine controls > **Air Pump**.

2 Press the Start function key to begin. The air pump will activate for 30 seconds, then "time-out" after 60 seconds.

Menu Reference

Air Pump: GM or Saturn

Fan On/Off

The Cooling Fan on or off control enables the fan relay to be switched on or off. The Fan On/Off option can be used to command fan 1 or 2 on or off. When either fan is commanded off, it will remain off if the engine coolant temperature is below what would be considered an excessive temperature that could damage an engine, or if the air conditioning is turned off.

To switch the Cooling Fan on or off, follow these steps:

1 GM/Saturn > Special tests > Engine controls > **Fan On/Off**.

2 Press the Start function key to begin.

3 Press the function keys to toggle the fan switch.

Menu Reference

Fan On/Off: GM or Saturn

Crankshaft Learn

The Crankshaft Learn option enables the crank angle sensing error learning algorithm, which calculates the reference pulse correction factors for the misfire diagnostic. When enough reference pulse data is captured, the crank correction factors are calculated and stored in memory.

WARNING:

- **RPM ranges between 4000 to 5200 rpm are required during this test. Make sure the drive wheels are solidly blocked before Crankshaft Learn is activated. Check all fluid levels for the engine. You may not want to run the engine through this test if it is a high mileage or weak engine.**

To enable the Crankshaft Learn, follow these steps:

1 Pre-set the following conditions:

- turn the air conditioning off
- the vehicle must be in park or neutral
- clear all diagnostic trouble codes
- coolant temperature must be within normal range
- crank error must not have been already learned since power control module power-up
- press and maintain pressure on the brake pedal.

2 Refer to your vehicle service manual for setup instructions.

3 Follow this path: GM/Saturn > Special tests > Engine controls > **Crankshaft Learn**.

4 Follow the on-screen steps to prepare for enabling crankshaft learn.

5 Press the Start function key to begin.

Menu Reference

Crankshaft Learn: GM or Saturn

High Fan Control

The High Fan control commands the high speed fan on or off.

To command the High Fan on or off, follow these steps:

1 GM/Saturn > Special tests > Engine controls> **High Fan**.

2 Press the Start function key to begin.

3 Press the function keys to command the fan switch.

Menu Reference

High Fan: GM or Saturn

Low Fan Control

The Low Fan control commands the low speed fan on or off.

To command the Low Fan on or off, follow these steps:

1 GM/Saturn > Special tests > Engine controls > **Low Fan**.

2 Press the Start function key to begin.

3 Press the function keys to command the fan switch.

Menu Reference

Low Fan: GM or Saturn

Idle Air Control Position

The Idle Air Control (IAC) Position option allows control of the position of the IAC motor when an override of the idle air adjustment is required.

To command the Idle Air Motor, follow these steps:

1 Place the vehicle in park or neutral.

2 Follow this path: GM/Saturn > Special tests > Engine controls > **IAC Position.**

3 Press the Start function key to begin.

4 Adjust the idle air motor position with the function keys.

Menu Reference

IAC Position: GM or Saturn

Idle Air Control RPM

The Idle Air Control (IAC) RPM option can be used to determine if the system used to control the idle speed (Idle Speed, Electronic Throttle Control or fuel for diesel) is functioning properly.

Important:

- **The engine idle speed must be less than 1000 RPM if the vehicle is not in park or neutral. Idle speed may be at any level if the vehicle is in park or neutral.**

To command the Idle Air Control RPM, follow these steps:

1 GM/Saturn > Special tests > Engine controls > **IAC RPM.**

2 Press the Start function key to begin.

3 Adjust the idle position with the function keys.

Menu Reference

IAC RPM: GM or Saturn

Spark Retard Control

The Spark Retard Control can be used to retard the spark from the normal value set by the power control module.

To Command the Spark Retard

The spark can be retarded continuously if the engine is at idle speed. If the engine is above idle speed, the spark will be retarded for 30 seconds and then the Spark Retard function will be “timed-out” for 60 seconds.

To command the Spark Retard, follow these steps:

1 Place the vehicle in park or neutral.

2 Follow this path: GM/Saturn > Special tests > Engine controls > **Spark Retard.**

3 Press the Start function key to begin.

4 Adjust the spark position with the function keys.

Menu Reference

Spark Retard: GM or Saturn

Starter Inhibit Control

The Starter Inhibit Control will turn the Starter Inhibit solenoid on or off. The starter motor will be prevented from cranking the engine.

To command the Starter Inhibit, follow these steps:

1 GM/Saturn > Special tests > Engine controls > **Starter Inhibit**.

2 Press the Start function key to begin.

3 Turn the Starter Inhibit solenoid on or off with the Function key.

Menu Reference

Starter Inhibit: GM or Saturn

EVAPORATIVE EMISSIONS CONTROLS

The Evaporative Emissions Control (EVAP/EGR) option permits control of the Canister Purge Solenoid, Canister Vent Solenoid, Exhaust Gas Recirculation (EGR) Control, Exhaust Gas Recirculation (EGR) Vent Solenoid and Evaporative Service Bay Test evaporative emissions control devices. Only those devices found on the test vehicle will be listed.

To view an Evaporative Emissions Control device, follow these steps:

1 GM/Saturn > Special tests > **EVAP/EGR Control**.

2 Press the Start function key to begin.

3 Press the function keys to adjust the device setting or to toggle the control output switch.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

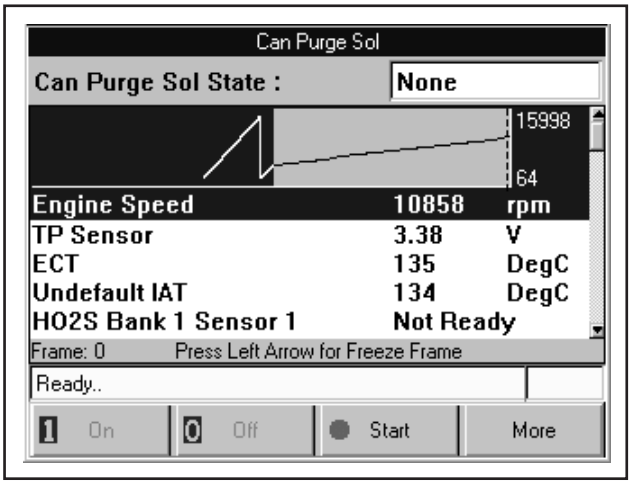


Figure 2.54: Emissions Control

Menu Reference

EVAP/EGR Control: GM or Saturn

Canister Purge Solenoid Control

The Canister Purge Solenoid Control option can be used to check the fuel vapor purge system functionality. This option overrides the control of the canister purge solenoid from 0 to 100 percent of the duty cycle.

To Command the Canister Purge Solenoid

The command function will not operate if the vacuum level is high enough to cause damage to the evaporative system. Fuel tank protection is also summoned during this command: a diagnostic code will be set if a failure is detected.

To command the Canister Purge Solenoid, follow these steps:

1 GM/Saturn > Special tests > EVAP/EGR controls > **Canister Purge Solenoid**.

2 Press the Start function key to begin.

3 Adjust the Canister Purge solenoid with the function keys.

Menu Reference

Canister Purge Solenoid: GM or Saturn

Canister Vent Solenoid Control

The Canister Vent Solenoid Control option checks the canister vent solenoid functionality by switching the canister vent solenoid on or off.

To Switch the Canister Vent Solenoid

The switch on or off function will not operate if the vacuum level is high enough to cause damage to the evaporative system. Fuel tank protection is also summoned during this command: a diagnostic code will be set if a failure is detected.

To command the Canister Vent Solenoid, follow these steps:

1 GM/Saturn > Special tests > EVAP/EGR controls > **Canister Vent Solenoid**.

2 Press the Start function key to begin.

3 Press the function keys to switch the Canister Vent solenoid to the On or Off position.

Menu Reference

Canister Vent Solenoid: GM or Saturn

Exhaust Gas Recirculation Control

The Exhaust Gas Recirculation (EGR) Control option checks digital or linear EGR device functionality by switching the EGR device on or off, or by enabling a linear setting between 0 - 100%.

To command the EGR Control, follow these steps:

1 GM/Saturn > Special tests > EVAP/EGR controls > **EGR Control**.

2 Start the engine.

3 Press the Start function key to begin, the EGR Control function will “time-out” for 60 seconds

4 Press the function key to adjust the EGR control linear setting, or alternatively, switch the EGR device on or Off.

Menu Reference

EGR Control: GM or Saturn

EGR Vent Solenoid

The Exhaust Gas Recirculation (EGR) Vent Solenoid Control option checks the device functionality by switching the EGR vent solenoid on or off. The EGR vent solenoid is included on diesel applications along with the "normal" EGR modulated solenoid to provide a quicker response for shutting off EGR.

To command the EGR Vent Solenoid, follow these steps:

1 GM/Saturn > Special tests > EVAP/EGR controls > **EGR Vent Solenoid**

2 Press the Start function key to begin.

3 Adjust the EGR Vent Solenoid control with the function keys.

Menu Reference

EGR Vent Solenoid: GM or Saturn

Evaporative Service Bay Test

The Evaporative Service Bay Test option activates the Evaporative Service Bay Test described in the vehicle manufacturer's service manual.

To Activate the Evaporative Service Bay Test

Before enabling the Service Bay Test, make sure the EVAP IM flag is not already set, the engine coolant is at operating temperature and the engine is not running.

To enable the Service Bay Test, follow these steps:

1 GM/Saturn > Special tests > EVAP/EGR controls > **EVAP Service Test.**

2 Press the Start function key to begin.

3 Adjust the Evaporative Service Bay setting with the function keys.

Menu Reference

EVAP Service Test: GM or Saturn

FUEL SYSTEM CONTROLS

The Fuel System Control options permit device control for the Fuel Pump Relay, Fuel Injector Disable, Fuel Closed Loop, and Fuel Trim Reset. Only those devices found on the test vehicle will be listed.

To view a Fuel System Control device, follow these steps:

1 GM/Saturn > Special tests > **Fuel System controls**.

2 Press the Start function key to begin.

3 Press the function keys to adjust the device setting or to toggle the control output switch.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

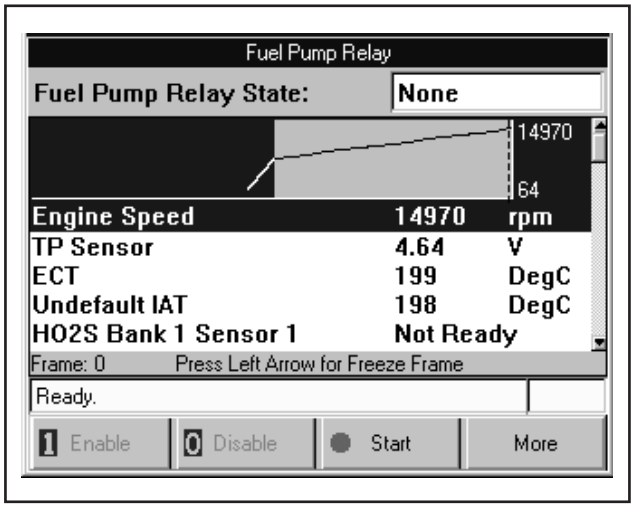


Figure 2.55: Fuel System Control

Menu Reference

Fuel System controls: GM or Saturn

Fuel Pump Relay

The Fuel Pump relay turns the fuel pump on or off to help determine if the fuel pump system is functioning correctly.

More About the Fuel Pump Relay

Some applications have the oil pressure switch wired in parallel with the fuel pump. The oil pressure switch will enable the fuel pump regardless of the state of the fuel pump relay if the engine oil pressure is high enough. For these applications, test the fuel pump with the engine not running.

For diesel applications, this test is not valid because the injection pump is capable of pumping fuel from the fuel tank, even if the fuel pump is off.

To activate the Fuel Pump Relay test, follow these steps:

1 GM/Saturn > Special tests > Fuel System controls > **Fuel Pump Relay**

2 Press the Start function key to begin.

3 Press the function keys to toggle the relay. The fuel pump will be turned on for two seconds when activated.

Menu Reference

Fuel Pump Relay: GM or Saturn

Fuel Injector Disable

The Fuel Injector Disable control activates each injector (1 through 8) to an on or off state.

More About Fuel Injector Disable

Disabling the fuel flow to an injector should cause a change in speed that indicates how much torque a cylinder is contributing.

Note 1: *Diesel engine computers will compensate for lack of fuel to a cylinder so the speed will not change. An improvement in engine smoothness when the fuel is restored to the cylinder should help indicate the amount of torque a cylinder is contributing.*

Note 2: *Refer also to "**Fuel Trim Reset**" on page 40. This test option clears parameters that may be corrupted or skewed because of a test such as turning off a fuel injector.*

To activate the Fuel Injector Disable test, follow these steps:

1 GM/Saturn > Special tests > Fuel System controls > **Fuel Injector (1 – 8) Disable**

2 Press the Start function key to begin.

3 Press the function keys to toggle the fuel injector. Observe RPM increase or decrease on a gasoline engine to see the effect of disabling an injector.

Menu Reference

Fuel Injector (1 – 8) Disable: GM or Saturn

Fuel Closed Loop

The Fuel Closed Loop allows the Fuel Control to be commanded to open loop or closed loop.

More About Fuel Closed Loop

When open loop is commanded the vehicle computer disables short and long term fuel trim learning. The vehicle computer then uses previously learned long term values along with open loop fuel ratio for fuel trim calculation.

To activate the Fuel Closed Loop control, follow these steps:

1 GM/Saturn > Special tests > Fuel System controls > **Fuel Closed Loop**

2 Press the Start function key to begin.

3 Press the function keys to command the fuel control to open or closed loop.

Menu Reference

Fuel Closed Loop: GM or Saturn

Fuel Trim Reset

The Fuel Trim Reset allows the fuel trim parameters to be returned to their initial values. This option clears parameters that may be corrupted or skewed because of a test such as turning off a fuel injector.

To activate the Fuel Trim Reset, follow these steps:

1 GM/Saturn > Special tests > Fuel System controls > **Fuel Trim Reset.**

2 Press the Reset Fuel function key to return the Fuel Trim setting to its initial.

Menu Reference

Fuel Trim Reset: GM or Saturn

DIESEL CONTROLS

The Diesel Control options enable device control for the Boost Control solenoid, Engine Shutoff solenoid, Fuel Injection Timing and the Glow Plug Relay.

To activate the Diesel Control devices, follow these steps:

1 GM > Special tests > **Diesel controls**

2 Select the diesel control device from the Diesel Controls menu.

3 Press the Start function key to begin.

4 Press the function keys to adjust the device setting or to toggle the control output switch.

Tip: position sensors to the top of the window to observe the their reaction when tests are activated or solenoids are toggled or adjusted.

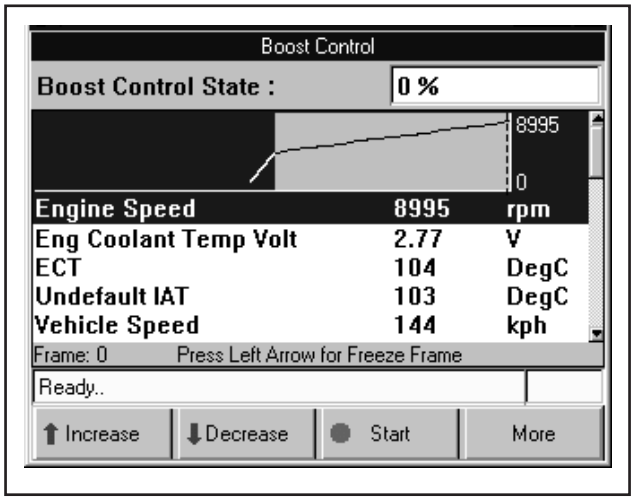


Figure 2.56: Output Control

Menu Reference

Diesel controls: GM

Boost Control

The Boost Control solenoid controls a bypass or waste-gate valve that bleeds off excessive boost pressure on turbo-charged and supercharged engines.

To activate the Boost Control Solenoid, follow these steps:

Important:

- **Vehicle speed must be less that 2 miles per hour before the Boost Control solenoid may be switched on or off, except for vehicles protected from over-boost with a mechanism such as fuel shutoff.**

1 GM > Special tests > Diesel controls > **Boost Control**

2 Press the Start function key to begin.

3 Press the function keys to adjust the duty cycle.

Menu Reference

Boost Control: GM

Engine Shutoff Solenoid

The Engine Shutoff solenoid blocks the fuel flow from entering the injection pump and stops engine operation.

To activate the Engine Shutoff Solenoid, follow these steps:

Important:

- **Vehicle speed must be less that 2 miles per hour before the Engine Shutoff control solenoid may be switched off.**

1 GM > Special tests > Diesel controls > **Engine Shutoff**

2 Press the Start function key to begin.

3 Press the function keys to toggle the shutoff solenoid.

Menu Reference

Engine Shutoff: GM

Fuel Injection Timing Control

The Fuel Injection Timing test is used to adjust the Fuel Injection Timing when the injection pump is replaced, or to check or diagnose the injection timing stepper motor and fuel system functionality.

Important:

- **This procedure is intended as a reference procedure to use after an injection pump replacement or when injection timing needs to be checked for a 1996 - 2004 GM 6.5L Diesel. Always check the manufacturer's service manual for an exact timing procedure for the vehicle.**

Before you begin:

- the requested fuel injection timing must not be greater than the normal maximum timing value (typically RPM dependent)
- locate or scribe a static timing mark as a reference on the injection pump mounting flange
- If you are replacing the PCM and the injection pump at the same time, refer to the vehicle service manual for TDC Offset procedures to be performed in addition to fuel injection timing procedures.

To adjust the Fuel Injection Timing, follow these steps:

1 Start the engine and bring it up to normal operating temperature.

2 Follow this path: GM > Special Tests > Diesel Control > **Fuel Injection Timing**.

3 View the injection timing: It will fluctuate but should show 3.5° (average fluctuation).

Tip: If the engine stalls, slightly (1mm equals 2°) rotate the injection pump toward the driver side of the vehicle, tighten the flange nuts and repeat steps 2 and 3.

4 If injection timing averages 3.5°, adjustment is complete.

If injection timing is off, turn engine off. Loosen the injection pump flange nuts and slightly rotate the injection pump to increase or retard timing:

- If injection timing is above 3.5°, slightly (1mm equals 2°) rotate the injection pump toward the passenger side of the vehicle, tighten the flange nuts and repeat steps 2 and 3.
- If injection timing is below 3.5°, slightly (1mm equals 2°) rotate the injection pump toward the driver side of the vehicle, tighten the flange nuts and repeat steps 2 and 3.

Menu Reference

Fuel Injection Timing: GM

Glow Plug Relay Control

The Glow Plug Relay Control will turn the glow plugs on or off.

Important:

- **The glow plug device control time-out period must not be active. The time-out is active for 12 seconds after a glow plug has been continuously commanded on for 3 seconds.**

To activate the Glow Plug Relay, follow these steps:

1 GM > Special tests > Diesel controls > **Glow Plug Relay**

2 Press the Start function key to begin.

3 Press the function keys to toggle the glow plug.

Menu Reference

Glow Plug Relay: GM

ENGINE INDICATOR LAMPS CONTROL

The Engine Indicator Lamps Control options allow device control for the Alternator Lamp Control, Change Oil Lamp, Check Gauges Lamp, Engine Hot Lamp, Low Coolant Lamp, MIL Lamp, Oil Level Lamp, Oil Pressure Lamp and Service Throttle Soon Lamp. Each device can be toggled on or off.

To activate the Engine Indicator Lamp control devices, follow these steps:

1 GM/Saturn > Special tests > **Engine Indicator Lamps.**

2 Select the engine indicator control device from the Engine Indicator Lamps menu.

3 Press the Start function key to begin.

4 Press the function keys to toggle the control output switch.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

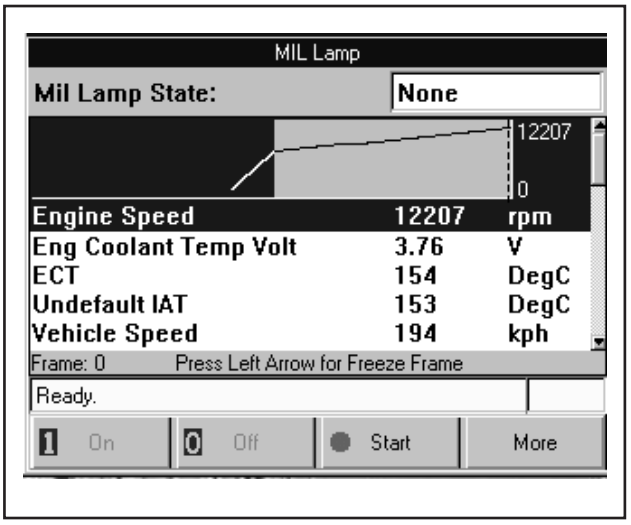


Figure 2.57: Indicator Lamp Control

Menu Reference

Engine Indicator Lamps: GM or Saturn

Alternator Lamp Control

The Alternator Lamp Control allows the alternator lamp to be turned on or off.

To activate the Alternator Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **Alternator Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Alternator Lamp on or off.

Menu Reference

Alternator Lamp: GM or Saturn

Change Oil Lamp Control

The Change Oil Lamp Control allows the Change Oil lamp to be turned on or off.

To activate the Change Oil Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **Change Oil Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Change Oil Lamp on or off.

Menu Reference

Change Oil Lamp: GM or Saturn

Check Gauges Lamp Control

The Check Gauges Lamp Control allows the Check Gauges lamp to be turned on or off.

To activate the Check Gauges Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **Check Gauges Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Check Gauges Lamp on or off.

Menu Reference

Check Gauges Lamp: GM or Saturn

Engine Hot Lamp Control

The Engine Hot Lamp Control allows the Engine Hot lamp to be turned on or off.

To activate the Engine Hot Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **Engine Hot Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Engine Hot Lamp on or off.

Menu Reference

Engine Hot Lamp: GM or Saturn

Low Coolant Lamp Control

The Low Coolant Lamp Control allows the Low Coolant lamp to be turned on or off.

To activate the Low Coolant Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **Low Coolant Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Low Coolant Lamp on or off.

Menu Reference

Low Coolant Lamp: GM or Saturn

MIL Lamp Control

The MIL Lamp Control allows the MIL lamp to be turned on or off.

To activate the MIL Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **MIL Lamp Control**

2 Press the Start function key to begin.

3 Press the function keys to toggle the MIL Lamp on or off.

Menu Reference

MIL Lamp Control: GM or Saturn

Oil Level Lamp Control

The Oil Level Lamp Control allows the Oil Level lamp to be turned on or off.

To activate the Oil Level Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **Oil Level Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Oil Level Lamp on or off.

Menu Reference

Oil Level Lamp: GM or Saturn

Oil Pressure Lamp Control

The Oil Pressure Lamp Control allows the Oil Pressure lamp to be turned on or off.

To activate the Oil Pressure Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Engine Indicator Lamps > **Oil Pressure Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Oil Pressure Lamp on or off.

Menu Reference

Oil Pressure Lamp: GM or Saturn

Service Throttle Soon Lamp Control

The Service Throttle Soon (STS) Lamp Control allows the Service Throttle Soon lamp to be turned on or off.

To activate the Service Throttle Soon Lamp Control, follow these steps:

1 GM > Special tests > Engine Indicator Lamps > **STS Lamp**

2 Press the Start function key to begin.

3 Press the function keys to toggle the Service Throttle Soon Lamp on or off.

Menu Reference

STS Lamp: GM

TRANSMISSION CONTROLS

The Transmission Control options permit device control of the transmission Pressure Control, Reverse Inhibit, Torque Converter Clutch, Transmission Gear, 3-2 Shift Solenoid, Preset or Reset Adaptive Parameters, and Skip Shift Control.

To select the Transmission Control devices, follow these steps:

1 GM/Saturn > Special tests > **Transmission controls**

2 Select the transmission control device from the Transmission Controls menu.

3 Press the Start function key to begin.

4 Press the function keys to toggle or adjust the device.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

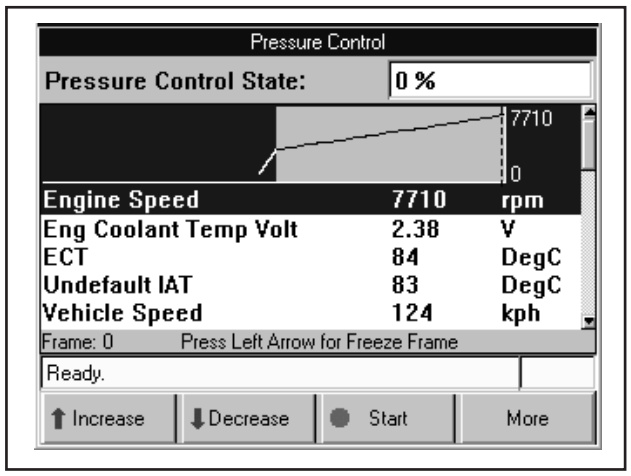


Figure 2.58: Transmission Control

Menu Reference

Transmission controls: GM or Saturn

Pressure Control Solenoid

The Pressure Control Solenoid permits the engagement (on) or disengagement (off) of the pressure control solenoid (may also be known as "force motor") or permits the pressure setting to be increased or decreased.

To activate the Pressure Control Solenoid, follow these steps:

1 Do one of the following:

If the engine is not running:

- the override current must be within calibrating limits.

If the engine is running:

- the override current must be within calibrating limits
- no transmission diagnostic codes must be active
- if the range is NOT park or neutral, current must be less than current determined by control algorithms
- If range is park or neutral, engine speed must be less than 1500 rpm.

2 GM/Saturn > Special tests > Transmission controls > **Pressure Control**

3 Press the Start function key to begin.

4 Press the function keys to toggle or adjust the solenoid or pressure setting.

Menu Reference

Pressure Control: GM or Saturn

Reverse Inhibit Control

The Reverse Inhibit Control permits the engagement (on) or disengagement (off) of the reverse inhibit device, which prevents the selection of reverse gear on a manual transmission.

To activate the Reverse Inhibit Control, follow these steps:

1 GM > Special tests > Transmission controls > **Reverse Inhibit Control**

2 Press the Start function key to begin.

3 Press the function keys to toggle the solenoid.

Menu Reference

Reverse Inhibit Control: GM

Torque Converter Clutch Control

The Torque Converter Clutch (TCC) control permits the engagement (on) or disengagement (off) of the torque converter clutch.

To activate the Torque Converter Clutch Solenoid, follow these steps:

1 Do one of the following:

If the engine is not running:

- the brake pedal must not be pressed.

If the engine is running:

- brake pedal must not be pressed
- the TCC system may be commanded off (enable solenoid off or control solenoid at maximum capacity) only when NOT in the Hot Mode
- the TCC system may be commanded off (enable solenoid off or control solenoid at maximum capacity) only when off time does not exceed five minutes total
- 2 solenoid system: when the enable solenoid is commanded on, the control solenoid must be set to maximum capacity.

Note: *Capacity is referred to because there are some applications that use a normally open TCC control Solenoid, and others that use a normally closed TCC solenoid.*

2 GM/Saturn > Special tests > Transmission controls > **Torque Converter Clutch Control**

3 Press the Start function key to begin.

4 Press the function keys to toggle or adjust the solenoid or pressure setting.

Menu Reference

Torque Converter Clutch Control: GM or Saturn

Transmission Gear Control

The Transmission Gear Control commands the transmission gear (not the individual shift solenoids). As the commanded gear changes the 1-2 "A" shift solenoid and the 2-3 "B" shift solenoid will be engaged (on) or disengaged (off).

To command the Transmission Gear, follow these steps:

1 Do one of the following:

Engine not running:

- no limitations

Engine is running:

- vehicle speed must be below 65 m.p.h.,
- only sequential gearshifts are allowed,
- 3-2 downshifts or 2-1 downshifts are allowed only if engine speed is not excessive (as determined by a calculated value) for downshift,
- gear requested may not be greater than the selected PRNDL range; for example, 3rd gear is not allowed if PRNDL range is D2.

2 GM/Saturn > Special tests > Transmission controls > **Transmission Gear**

3 Press the Start function key to begin.

4 Press the function keys to command the transmission gear.

Menu Reference

Transmission Gear: GM or Saturn

3-2 Shift Solenoid

The 3-2 Shift permits the engagement (on) or disengagement (off) of the 3-2 Shift Solenoid.

To activate the 3-2 Shift Solenoid, follow these steps:

Important:

- **If the engine is running, the transmission must be in park or neutral.**

1 GM/Saturn > Special tests >Transmission controls > **3-2 Shift Solenoid**

2 Press the Start function key to begin.

3 Press the function keys to switch the solenoid on or off.

Menu Reference

3-2 Shift Solenoid: GM or Saturn

Preset or Reset Adaptive Parameters Control

The Preset or Reset Adaptive Parameters Control permits presetting the adaptive parameters to the values maintained by the vehicle computer for a new transmission.

To preset or reset the Adaptive Parameters, follow these steps:

1 GM/Saturn > Special tests > Transmission controls > **Preset/Reset Adaptive Parameters**

2 Press the Start function key to begin.

3 Press the function key to preset or reset the adaptive parameters.

Menu Reference

Preset/Reset Adaptive Parameters: GM or Saturn

Skip Shift Control

The Skip Shift Control turns the solenoid on (engaged) or off (disengaged). Solenoid activation prevents selection of second and third gears on a manual transmission.

To activate Skip Shift Control, follow these steps:

1 GM > Special tests > Transmission controls > **Skip Shift Control**

2 Press the Start function key to begin.

3 Press the function key to toggle the solenoid on or off.

Menu Reference

Skip Shift Control: GM

TRANSMISSION INDICATOR LAMPS CONTROL

The Transmission Indicator Lamps Control options allow the indicator lamps to be turned on or off for the 1-4 Shift Lamp, 2nd Gear Start Lamp, Shift Lamp and Upshift Lamp.

To activate the Transmission Indicator Lamp control devices, follow these steps:

1 GM/Saturn > Special tests > **Transmission Lamps**

2 Select the Transmission Lamp control device from the Transmission Indicator Lamps menu.

3 Press the Start function key to begin.

4 Press the function keys to toggle the control output switch.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

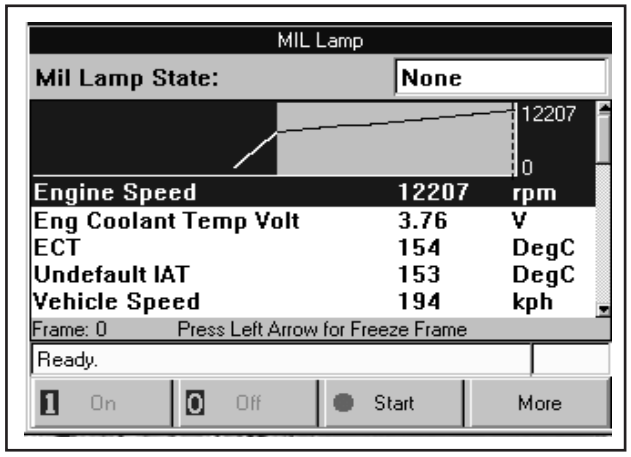


Figure 2.59: Lamp Control

Menu Reference

Transmission Lamps: GM or Saturn

1-4 Shift Lamp Control

The 1-4 Shift Lamp Control allows the 1-4 Shift lamp to be turned on or off.

To activate 1-4 Shift Control, follow these steps:

1 GM > Special tests > Transmission Lamps > **1 – 4 Shift Lamp**

2 Press the Start function key to begin.

3 Press the function key to toggle the lamp on or off.

Menu Reference

1 – 4 Shift Lamp: GM

2nd Gear Start Lamp Control

The 2nd Gear Start Lamp Control allows the 2nd Gear Start lamp to be turned on or off.

To activate 2nd Gear Start Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Transmission Lamps > **2nd Gear Start Lamp**

2 Press the Start function key to begin.

3 Press the function key to toggle the lamp on or off.

Menu Reference

2nd Gear Start Lamp: GM or Saturn

Shift Lamp Control

The Shift Lamp Control allows the Shift lamp to be turned on or off.

To activate Shift Lamp Control, follow these steps:

1 GM/Saturn > Special tests > Transmission Lamps > **Shift Lamp**

2 Press the Start function key to begin.

3 Press the function key to toggle the lamp on or off.

Menu Reference

Shift Lamp: GM or Saturn

Up-shift Lamp Control

The Up-shift Lamp Control allows the Up-shift lamp to be turned on or off.

To activate Up Shift Control, follow these steps:

1 GM > Special tests > Transmission Lamps > **Up-shift Lamp**

2 Press the Start function key to begin.

3 Press the function key to toggle the lamp on or off.

Menu Reference

Up-shift Lamp: GM

ACCESSORY CONTROLS

The Accessory Controls options allow the accessory devices to be turned on or off.

To activate the Accessory Control devices, follow these steps:

1 GM/Saturn > Special tests > **Accessory Controls**

2 Select the Accessory control device from the Accessory Controls menu.

3 Press the Start function key to begin.

4 Press the function keys to toggle the control output switch.

Tip: position sensors to the top of the window to observe their reaction when tests are activated or solenoids are toggled or adjusted.

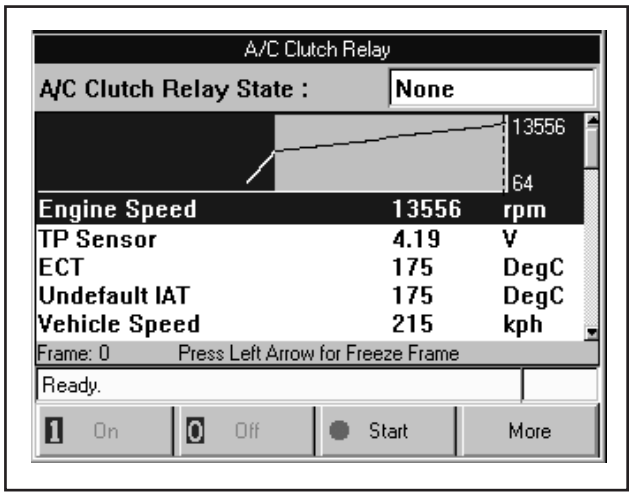


Figure 2.60: Accessory Control

Menu Reference

Accessory Controls: GM or Saturn

Air Conditioning Clutch Relay

The Air Conditioning (A/C) Clutch Control allows the Air Conditioning Clutch to be engaged (on) or disengaged (off).

To activate the A/C Clutch Relay, follow these steps:

1 GM/Saturn > Special tests > Accessory Controls > **A/C Clutch Relay**

2 Press the Start function key to begin.

3 Press the function key to toggle the relay on or off.

Menu Reference

A/C Clutch Relay: GM or Saturn

Alternator L-Terminal Control

The Alternator L-Terminal Control allows the Alternator L-Terminal to be toggled on or off.

More About the Alternator L-Terminal

The Alternator L-Terminal supplies power to the voltage regulator circuit of the alternator. If the L-terminal is turned off, the system voltage can be monitored. If the voltage is lower, the L-terminal circuit is considered good. If no drop in the ignition voltage is seen, the L-terminal may be shorted to the battery.

To activate the Alternator L-Terminal Control, follow these steps:

1 GM/Saturn > Special tests > Accessory Controls > **Alternator L-Terminal**

2 Press the Start function key to begin.

3 Press the function key to toggle the Alternator L-Terminal on or off.

Menu Reference

Alternator L-Terminal: GM or Saturn

Cruise Inhibit

The Cruise Inhibit Control allows the Cruise Control function to be toggled on or off.

More About the Cruise Inhibit Control

The cruise control system is a stand-alone system, however, the vehicle computer can inhibit cruise control operation if conditions are detected that would make cruise control undesirable. Cruise Inhibit Control will allow or inhibit the cruise control function.

To activate the Cruise Inhibit, follow these steps:

1 GM > Special tests > Accessory Controls > **Cruise Inhibit**

2 Press the Start function key to begin.

3 Press the function key to toggle the Cruise Inhibit on or off.

Menu Reference

Cruise Inhibit: GM

Actuator Tests

The Actuator Test displays all of the vehicle engine actuators that can be controlled with the Pathfinder program.

To activate an engine actuator, follow these steps:

WARNING:

- **Before you perform Actuator Tests on a vehicle with a Distributorless Ignition System (DIS) ignition, disconnect all spark plug wires at the spark plugs, then connect spark testers (OTC part # 7230) between the spark plug wire and the ground. Failure to disconnect the spark plug wires and insert spark testers could cause serious injury. Actuator Ignition Coil tests (Ignition Coil 1-5) can cause fuel in the intake manifold to ignite.**
- **Some of the Actuator Tests may activate the fuel pump. Do not unhook any fuel lines or injectors except if specifically instructed to do so by the vehicle service manual. Once testing is completed, reconnect fuel lines or injectors so fuel leaks will not cause hazardous conditions.**

1 Chrysler/Jeep > Special tests > **Actuator Tests**

2 Select an actuator to view from the list displayed.

3 Press the function key to activate or deactivate the actuator.

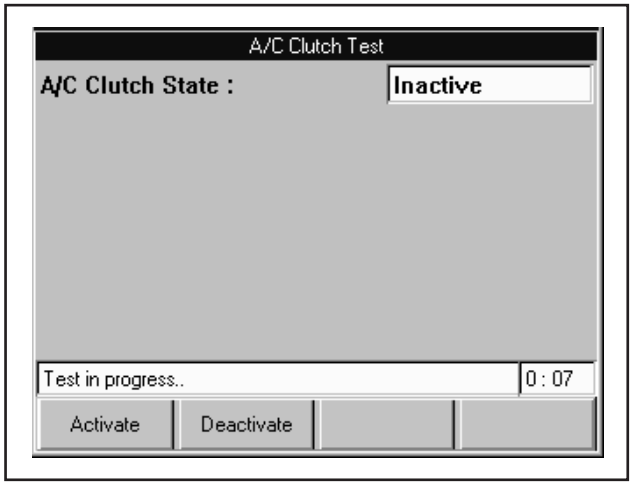


Figure 2.61: Actuator Test

Menu Reference

Actuator Tests: Chrysler or Jeep

Idle Air Control

The Idle Air Control (IAC) test activates the IAC motor by increasing and decreasing the engine Revolutions Per Minute (RPM).

To activate the Idle Air Control, follow these steps:

1 Chrysler/Jeep > Special tests > **Idle Air Control Test**

2 Select a "target" idle speed, and then press ENTER.

3 Activate the Idle Air Control motor (maximum 2000 RPM) by pressing the appropriate function key to increase or decrease the actual idle RPM.

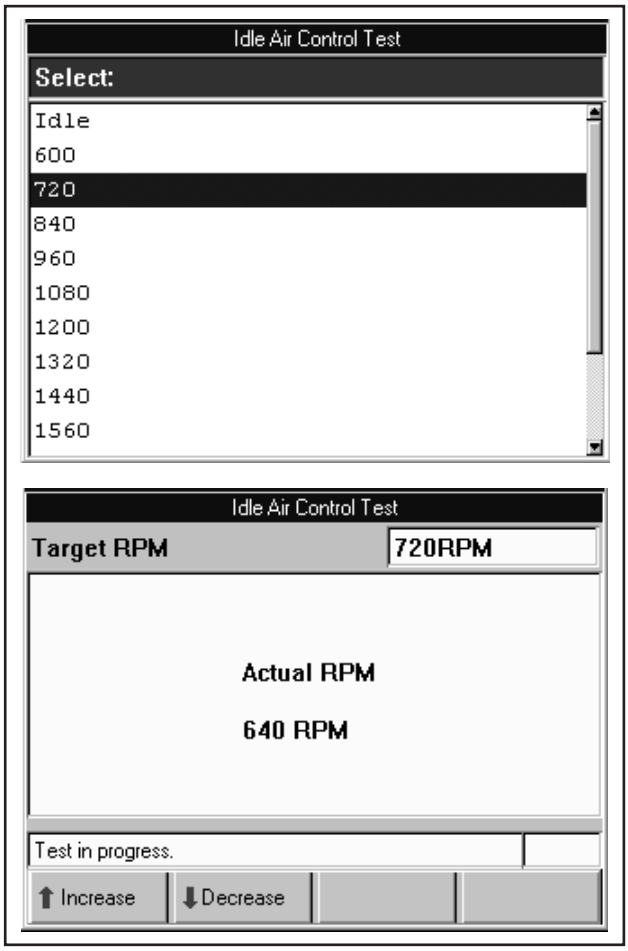


Figure 2.62: Idle Air Control

Menu Reference

Idle Air Control Test: Chrysler or Jeep

Enable/Disable Test

The Enable/Disable Test allows the technician to enable and disable actuators while the engine is running. This option is primarily used to enable and

disable fuel injectors. Depending upon the vehicle configuration, other controllable actuators may also be available.

To activate the Enable/Disable Test, follow these steps:

1 Chrysler/Jeep > Special tests > **Enable/Disable Test**

2 Select a fuel injector or an actuator to view, the vehicle sensors will be displayed adjacent to a graph of the fuel injector or actuator selected. View the sensors and their reaction to the actuator action. If a fuel injector is selected, enable or disable the fuel injector.

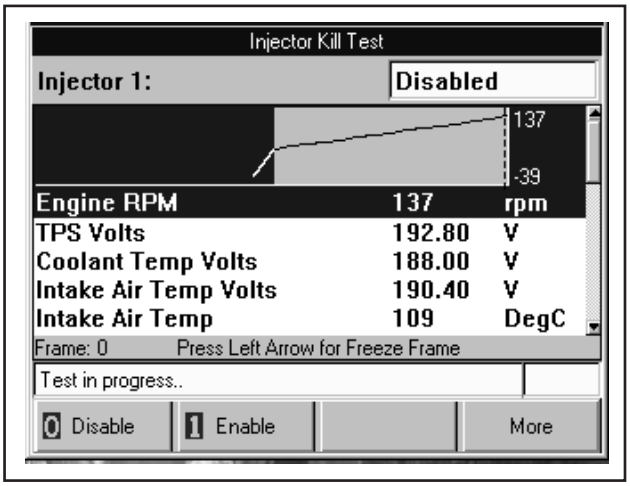


Figure 2.63: Enable or Disable Actuator

Menu Reference

Enable/Disable Test: Chrysler or Jeep

Switch Test

The Switch Test displays all of the vehicle Transmission switches that can be monitored for activity.

More about the Switch test

The Switch Tests are divided into three areas:

- All Switches - displays all transmission switches;
- Shift Lever Position - displays transmission switch settings;
- Pressure Switches - displays status of the transmission pressure switches.

Select the switches to display from the Special Tests menu.

During testing:

- Switch High means that one, or more, switches are activated.
- Switch Low means that no switches are activated.

To Display All Switches

To display all switches, follow these steps:

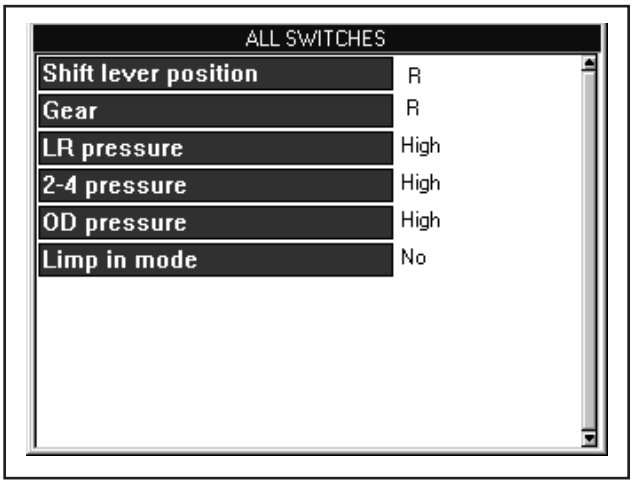
1 Chrysler/Jeep > Special tests > Switch Tests > **All Switches**.

Switches	Readings
Shift Lever	Read position of gear shift lever as P (Park), R (Reverse), N (Neutral), O (Overdrive), D (Drive), L (Low) or A (Autostick).
Gear	Calculates (from pressure switches) transmission gear as R, N, 1, 2, 3, or 4.
Pressure: *LR **LRCC *2-4 **2C */**OD **4C */**UD	Read HI or LO (High/open or Low/closed)
Limp-in Mode	Read Y (Yes) or N (No)

* Chrysler

**1999-2004 Chrysler 4.7L engine

Note: *If the vehicle computer is in the "limp in" mode, the shift lever display will be blank and the pressure switches will be LO/closed.*



To Display Shift Level Position

Test the vehicle during a road test to activate the proper switches.

⚠ WARNING:

- **Do not drive the vehicle and operate the scan tool at the same time. Any distractions may cause an accident. Have one person operate the tester as another person drives the vehicle.**

To monitor all switches, follow these steps:

1 Chrysler/Jeep > Special tests > Switch Tests > **Shift Level Position**.

2 Review the appropriate chart for switch states and shift lever position schematics. Compare the Shift Lever Position switches displayed on-screen to the appropriate EATX transmission chart titled "Normal PRNDL & Neutral/Start Switch States". Four charts are available: EATX I, EATX II or III, EATX III and EATX IV. The correct switch open/closed state is illustrated for each shift lever position. Determine if the switch state for the shift lever position displayed on-screen matches the correct switch state illustrated on the chart.

Note: *Verify the correctness of the Shift Lever Position (SLP) signals before diagnosing any problems. Valid, but incorrect, "PRNDL" and neutral/start signals might result in other diagnostic codes and possibly a "limp-in" mode; e.g., shift lever is in Over-Drive position but Reverse signal position is being received.*

Note: *Autostick–if available–is displayed on revision 12, or newer transmission controllers. Select "**Vehicle Information**" on page 61 to determine the vehicle transmission controller revision number.*

EATX I

Normal PRNDL & Neutral/Start Switch States

Shift Lever Position	P	R	N	OD	D	L
T42 / NS2	Closed	Open	Open	Open	Open	Closed
T41 / NS1	Closed	Open	Closed	Open	Open	Open
T1 / RL2	Open	Closed	Open / Closed	Open	Closed	Open
T3 / RL1	Open	Closed	Open	Closed	Open	Open

EATX II OR III

Normal PRNDL & Neutral/Start Switch States

Shift Lever Position	P	R	N	OD	3	L
C4	Open	Open	Closed	Closed	Open	Closed
C3	Closed	Open	Open	Open	Closed	Closed
C2	Closed	Closed	Closed	Open	Open	Closed
C1	Closed	Open	Closed	Open	Open	Open

EATX III with Autostick

Normal PRNDL & Neutral/Start Switch States

Shift Lever Position	P	R	N	OD	A (3)	A (2)	A (1)	+	–
C4	Open	Open	Closed	Closed	Open	Open	Open		
C3	Closed	Open	Open	Open	Closed	Closed	Closed		
C2	Closed	Closed	Closed	Open	Open	Open	Open		
C1	Closed	Open	Closed	Open	Open	Open	Open		

+ Autostick is held in the Up-shift position

– Autostick is held in the Down-shift position

EATX IV (1999-2004 Chrysler 4.7L)

Normal PRNDL & Neutral/Start Switch States

Shift Lever Position	P	R	N1	N2	D	3	L
C5	Closed	Open	Open	Open	Open	Closed	Closed
C4	Open	Open	Open	Closed	Closed	Closed	Open
C3	Open	Open	Closed	Closed	Closed	Open	Closed
C2	Closed	Closed	Closed	Closed	Open	Open	Open
C1	Closed	Open	Closed	Closed	Open	Open	Open

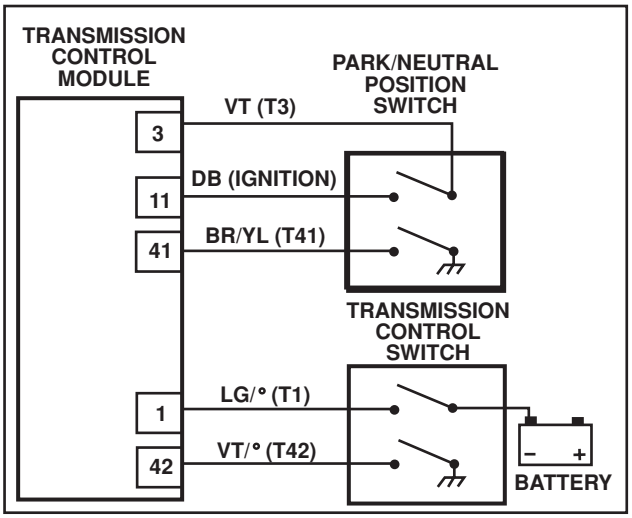


Figure 2.64: Shift Level Position, Non-LH Model Vehicles

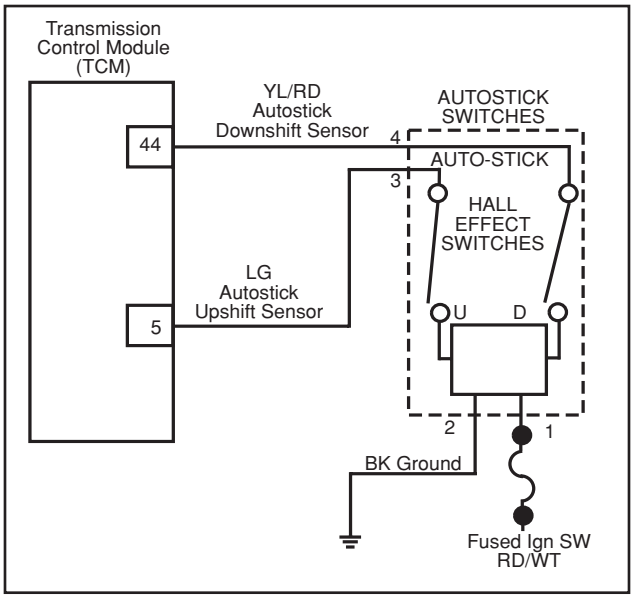


Figure 2.65: Autostick Sensor Circuit

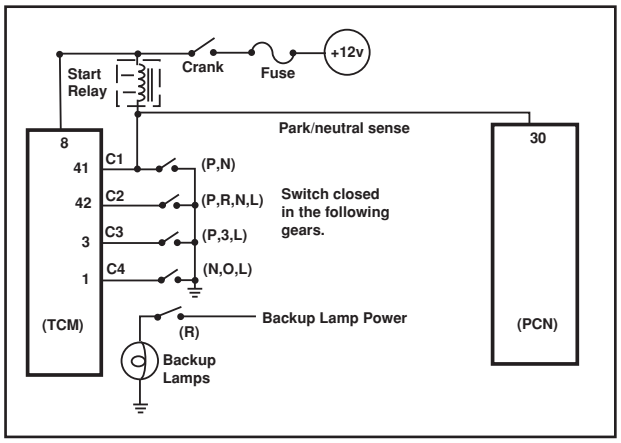


Figure 2.66: Shift Lever Position

Menu Reference

Switch Test: Chrysler or Jeep

Pressure Switches

The PRESSURE SWITCHES option displays the status of the pressure switches in the transaxle system.

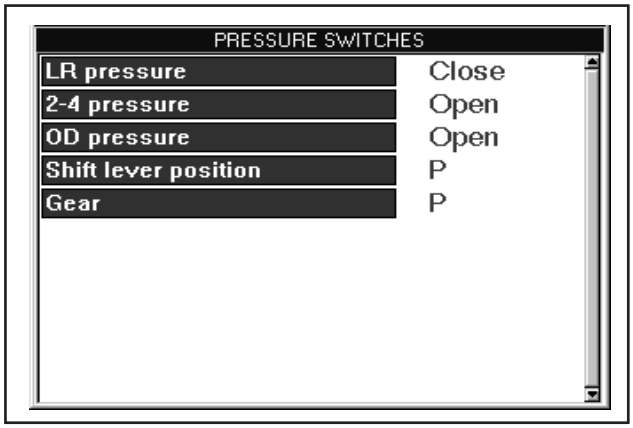
To Display Status of the Pressure Switches, follow these steps:

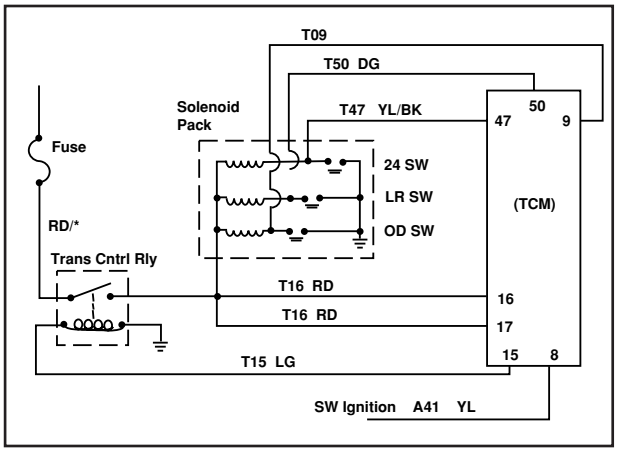
WARNING:

- **Do not drive the vehicle and operate the scan tool at the same time. Any distractions may cause an accident. Have one person operate the tester as another person drives the vehicle.**

1 Test the vehicle during a road test to activate the proper switches. To display all switches, follow this path: Chrysler/Jeep > Special tests > Switch Tests > **Pressure Switches**.

2 Compare the Shift Lever Position switches displayed on-screen to the charts titled "**Chrysler Switch States and Shift Lever Position**" on page 53. The correct switch open/closed state is illustrated for each shift lever position.





Chrysler Switch States and Shift Lever Position

Shift Lever Position	P	R	N	1st	2nd	3rd	4th	Limp in
L-R	Closed	Open	Closed	Closed	Open	Open	Open	Closed
2-4	Open	Open	Open	Open	Closed	Open	Closed	Closed
OD	Open	Open	Open	Open	Open	Closed	Closed	Closed

1999 - 2004 Chrysler 4.7L engine Switch States and Shift Lever Position

Shift Lever Position	R	N	1	2	2p	3	4	Limp in
L-R	Closed			Open	Open	Open	Open	Closed
2C	Open	Open	Open	Closed	Open	Open	Open	Closed
OD	Open	Open	Open	Open	Open	Closed	Closed	Closed
4C	Open	Open	Open	Open	Closed	Open	Closed	Closed
UD	Open	Open	Closed	Closed	Closed	Closed	Open	Closed

Figure 2.67: Pressure Switches

Menu Reference

Pressure Switches: Chrysler, Jeep

Actuator Tests

The Actuator Tests option sends a command to the solenoids in the transaxle system. Test the vehicle drive circuits with the engine running or engine off. Then attach a pressure gage and test the pressure generated by the transaxle/transmission solenoids with the engine running.

To Enable Cycle Actuator Tests, follow these steps:

IMPORTANT:

- **Turn the engine off, then on before attempting any Cycle Actuator tests.**

1 Chrysler > Special Tests > **Actuator Tests**.

2 Follow the on-screen instructions. Select the solenoid to test.

Menu Reference

Actuator Tests: Chrysler

Clutch Volume Index Test

The Clutch Volume Index (CVI) Test compares the actual clutch volume values to the minimum and maximum clutch volume values.

To enable the Clutch Volume Index test, follow these steps:

1 Chrysler/Jeep > Special tests > **Clutch Volume Index Test**

Note: *If the battery electrical feed is disconnected from the controller, the learned clutch fill volumes will be lost and initial values will be substituted until current values can be relearned. Shifting may be harsh.*

The initial default values for a Chrysler vehicle are:

- LR = 64
- OD = 89
- 2–4 = 48
- UD = 44

Menu Reference

Clutch Volume Index Test: Chrysler, Jeep

EMCC Status

The Electronically Modulated Converter Clutch (EMCC) Status option shows the status of the "break-in" function performed on a new torque converter clutch.

To enable the EMCC Status, follow these steps:

1 Chrysler/Jeep > Special tests > **EMCC Status**

You will not harm the torque converter clutch if you reset this break-in function by mistake, but gas mileage will drop for 1,000 miles while the break-in function is in process.

One of three possible messages will be displayed:

- Reset,
- Breaking In,
- Completed.

Menu Reference

EMCC Status: Chrysler, Jeep

Quick Learn

The QUICK LEARN option gives the technician a means to install default drive values into the Transmission Control Module (TCM). This option should be used after TCM replacement.

To enable the Quick Learn, follow these steps:

1 Chrysler/Jeep > Special tests > **Quick Learn**

Follow the steps requested by the software program.

Note: *The Quick Learn option will not function if there are Diagnostic Trouble Codes (DTCs) saved in the vehicle computer memory. All vehicle repairs must be made and the DTCs erased, see "**Clear Codes**" on page 24.*

Menu Reference

Quick Learn: Chrysler, Jeep

Battery Disconnect

The Battery Disconnect option provides a quick way to erase the Transmission Control Module (TCM) learned values. The learned values are then reset to default values.

To enable the Battery Disconnect, follow these steps:

1 Chrysler/Jeep > Special tests > **Battery Disconnect**

The ignition must be on and the engine off to perform this function. If there are fault codes detected, a message will be displayed and you will not be allowed to continue. Exit this function and select **Diagnostic Codes**, see "**Read/Current Codes**" on page 23. Read the diagnostic codes, record them if desired and erase them, see "**Clear Codes**" on page 24. Verify that they have been erased and then attempt the Battery Disconnect option again. This option will cause a code 12 (Battery Connection) Fault to be set.

Menu Reference

Battery Disconnect: Chrysler, Jeep

Pinion Factor

The PINION FACTOR option is available for the Chrysler 41 TE/AE and 42LE transaxle. This test reads and enables resetting the pinion value in the Transmission Control Module memory.

To enable the Pinion Factor, follow these steps:

1 Chrysler/Jeep > Special tests > Pinion Factor > **Read Pinion Factor** or **Set Pinion Factor**

2 Select Read Pinion Factor.

Compare the displayed value to the Pinion Factor table, see "**Chrysler / Jeep Electronic Pinion Factor**" on page 55. Speedometer accuracy is dependent on the pinion value matching the tire size as listed in the chart. If the pinion factor is set incorrectly, any speed-related accessories will not operate or will operate inaccurately. These accessories include the speedometer, speed control, rolling door locks, and other devices that are operated by the powertrain and body controllers.

3 If it is necessary to change the pinion factor, select **Set Pinion Factor**. Select the engine and tire size to change the pinion factor.

Menu Reference

Pinion Factor: Chrysler, Jeep

Read Pinion Factor: Chrysler, Jeep

Set Pinion Factor: Chrysler, Jeep

Chrysler / Jeep Electronic Pinion Factor

Year	Body	Engine Size	Tire Size	Pinion
93	"AA, AC, AG, AJ,"AP, AS, AY	3.0 & 3.3	P185/70R14	2C 66
93	"AA, AC, AG, AJ,AP, AS, AY"	3.0 & 3.3	P195/70R14	2B 52
93	"AA, AC, AG, AJ, AP, AS, AY"	3.0 & 3.3	P195/75R14	2A 32
93	"AA, AC, AG, AJ,AP, AS, AY"	3.0 & 3.3	P205/60R14	2D 78
93	"AA, AC, AG, AJ,AP, AS, AY"	3.0 & 3.3	P205/70R14	2A AC
93	"AA, AC, AG, AJ, AP, AS, AY"	3.0 & 3.3	P195/60HR15	2C B1
93	"AA, AC, AG, AJ, AP, AS, AY"	3.0 & 3.3	LT195/75R15-C	28 69
93	"AA, AC, AG, AJ, AP, AS, AY"	3.0 & 3.3	P205/60R15	2B BD
93	"AA, AC, AG, AJ, AP, AS, AY"	3.0 & 3.3	P205/70R15	29 0C
93	"AA, AC, AG, AJ, AP, AS, AY"	3.0 & 3.3	P215/75R15	27 90
93	"AA, AC, AG, AJ, AP, AS, AY"	3.0 & 3.3	P205/55R16	2B 80
93	"AS, AY"	3.8	P185/70R14	27 20
93	"AS, AY"	3.8	P195/70R14	26 2C
93	"AS, AY"	3.8	P195/75R14	25 2F
93	"AS, AY"	3.8	P205/60R14	28 11
93	"AS, AY"	3.8	P205/70R14	25 9A
93	"AS, AY"	3.8	P195/60HR15	27 62
93	"AS, AY"	3.8	LT195/75R15-C	23 A4
93	"AS, AY"	3.8	P205/60R15	26 8B
93	"AS, AY"	3.8	P205/70R15	24 2C
93	"AS, AY"	3.8	P215/75R15	22 DD
93	"AS, AY"	3.8	P205/55R16	26 55
93-97	LH	*NOTE	All	28 F1
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P185/70R14	2C 66
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P195/70R14	2B 52
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P195/75R14	2A 72
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P205/60R14	2D 78
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P205/70R14	2A AC
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P195/60HR15	2C B1
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	LT195/75R15-C	28 72
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P205/60R15	2B BD
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P205/70R15	29 0C
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P215/75R15	27 90
94	"AA, AC, AJ, AP, AS, AY"	3.0 & 3.3	P205/55R16	2B 80
94	AS	3.8	P185/70R14	2A 50

Chrysler / Jeep Electronic Pinion Factor

Year	Body	Engine Size	Tire Size	Pinion
94	AS	3.8	P195/70R14	29 49
94	AS	3.8	P195/75R14	28 C2
94	AS	3.8	P205/60R14	2B 55
94	AS	3.8	P205/70R14	28 AB
94	AS	3.8	P195/60HR15	2A 98
94	AS	3.8	LT195/75R15-C	26 8C
94	AS	3.8	P205/60R15	29 AF
94	AS	3.8	P205/70R15	27 1F
94	AS	3.8	P215/75R15	25 B5
94	AS	3.8	P205/55R16	29 75
94-95	"F24S,FJ22"		205/55R16	44 C3
94-95	"F24S,FJ22"		195/70R14	44 84
94-95	"F24S,FJ22"		All at Assembly	44 84
95	"AA, AJ, AS"	3.0 & 3.3	P185/70R14	2C 61
95	"AA, AJ, AS"	3.0 & 3.3	P195/70R14	29 49
95	"AA, AJ, AS"	3.0 & 3.3	P195/75R14	2A 42
95	"AA, AJ, AS"	3.0 & 3.3	LT195/75R14-C	2A 35
95	"AA, AJ, AS"	3.0 & 3.3	P205/70R14	2A AC
95	"AA, AJ, AS"	3.0 & 3.3	P195/60HR15	2C B1
95	"AA, AJ, AS"	3.0 & 3.3	LT195/75R15-C	28 72
95	"AA, AJ, AS"	3.0 & 3.3	P205/60R15	2B B5
95	"AA, AJ, AS"	3.0 & 3.3	P205/70R15	29 11
95	"AA, AJ, AS"	3.0 & 3.3	P215/75R15	27 90
95	"AA, AJ, AS"	3.0 & 3.3	P205/55R16	2B 80
95	AS	3.8	P185/70R14	2A 4C
95	AS	3.8	P195/70R14	29 49
95	AS	3.8	P195/75R14	28 46
95	AS	3.8	LT195/75R14-C	28 39
95	AS	3.8	P205/70R14	28 AB
95	AS	3.8	P195/60HR15	2A 98
95	AS	3.8	LT195/75R15-C	26 AA
95	AS	3.8	P205/60R15	29 A8
95	AS	3.8	P205/70R15	27 23
95	AS	3.8	P215/75R15	25 B5
95	AS	3.8	P205/55R16	29 75
95-97	JA	2.4 & 2.5	P195/65R15	2E DE
95-00	JA	2.4 & 2.5	P195/65R15	2E DE

Chrysler / Jeep Electronic Pinion Factor

Year	Body	Engine Size	Tire Size	Pinion
95-00	JA	2.4 & 2.5	P195/70R14	2E DE
96	"F24S,FJ22"		205/55R16	5B AA
96	"F24S,FJ22"		195/70R14	5B 56
96	F24S		185/70R14	5C DD
96	"F24S,FJ22"		All at Assembly	5B 56
96-00	JA	2	P195/70R14	30 DD
96-00	JX	2.4** & 2.5	P205/65R15	2D 78
96-00	JX	2.4** & 2.5	P215/55R16	2D EB
98-00	LH	2.7	P205/70R15 A/S	2C 13
98-00	LH	2.7	P225/55R17 95T	2B 68
96-00	NS	2.4	P205/75R14	2C BF
96-98	NS	2.4	P215/65R15	2C EA
96-98	NS	3.3	P215/65R15	29 96
96-98	NS	3.8	P215/65R15	27 A2
96-00	NS	3.3	P215/70R15	28 65
96-98	NS	3.8	P215/70R15	26 7F
96-00	NS	3.3	P215/65R16	28 4A
96-98	NS	3.8	P215/65R16	26 66
97-00	"F24S,FJ22"		205/55R16	5B AA
97-00	"F24S,FJ22"		195/70R14	5B 56
97-99	F24S		185/70R14	5C DD
97-00	FJ22	2.5	215/50R17	59 44
97-09	"F24S,FJ22"	2	All at Assembly	5B 56
97-00	FJ22	2.5	All at Assembly	59 4A
97-00	NS	3.0&3.3	P205/75R14	29 6E
98-01	LH	2.7	P225/60R16 97T	2B 84
98-00	LH	3.2 & 3.5	P205/70R15 A/S	29 78
98-00	LH	3.2 & 3.5	P225/55R17 95T	28 D7
98-00	*LH	3.2 & 3.5	P225/60VR16 97V	28 D7
98-01	LH	3.2 & 3.5	P225/60R16 97T	28 F2
98-00	LH	3.2 & 3.5	P205/70R15 A/S	29 78
98-00	LH	3.2 & 3.5	P225/55R17 95T	28 D7

Chrysler / Jeep Electronic Pinion Factor

Year	Body	Engine Size	Tire Size	Pinion
98-00	LH	3.2 & 3.5	P225/60VR16 97V	28 D7
98-02	LH	2.7	P205/70R15 A/S	2C 13
98-02	LH	2.7	P225/55R17 95T	2B 68
98-02	LH	2.7	P225/60R16 97T	2B 84
98-02	LH	3.2 & 3.5	P225/60R16 97T	28 F2
98-02	LH	3.2 & 3.5	P225/55R17 95V	28 F2
99-00	NS	2.4	P215/65R15	2C CE
99-00	NS	3.3	P215/65R15	29 7B
99-00	NS	3.8	P215/65R15	27 4E
99-00	NS	3.8	215/65R16	26 2D
99-00	NS	3.8	P215/60R17	25 C8
00-01	LH	3.5	P225/55R17 95V	28 F2
00-01	PT44	2.4L	P195/65R16	2E DF
00-01	PT44	2.4L	195/65R16	2E B4
00-01	PT44	2.4L	P205/55R16	2E DF
00-01	PT44	2.4L	205/55R16	2E FB
00-01	PT44	2.4L	185/65R15	2F E1
00-01	PT44	2.0L	P195/65R16	30 E8
00-01	PT44	2.0L	195/65R16	30 BC
00-01	PT44	2.0L	P205/55R16	30 E8
00-01	PT44	2.0L	205/55R16	31 06
00-01	PT44	2.0L	185/65R15	31 F5
01	LH	3.5	P225/55R17 95T	28 FF
01	JR	2.4	P205/60R16 91T	2D CE
01	JR	2.4	P205/65R15 92T	2D CE
01	JR	2.7	P205/60R16 91T	2D CE
01	JR	2.7	P205/65R15 92T	2D CE
01	PL41	2.0	P185/60R15	30 F1
01	PL41	2.0	185/60R15	31 9C
01	PL41	2.0	P185/65R14	31 F3
01	PL41	2.0	185/65R14	32 3A

Chrysler / Jeep Electronic Pinion Factor

Year	Body	Engine Size	Tire Size	Pinion
01	PL41	1.6L	P185/60R15	3311
01	PL41	1.6L	185/60R15	33C5
01	PL41	1.6L	P185/65R14	341E
01	PL41	1.6L	185/65R14	3469
01-02	LH	2.7	P225/55R17 95V	2B 3D
01-02	LH	2.7	P225/55R17 97V	28 F2
01-02	LH	2.7	P225/55/R17 95T	2B 92
01-02	LH	2.7	P225/60R16	2B 92
01-02	LH	2.7	P225/55R17	28 FF
01-02	RS	3.3	215 / 70R15	284A
01-02	RS	3.3	215 / 65R16	2872
01-02	RS	3.3	215 / 60R17	27E0
01-02	RS	3.5 & 3.8	P215 / 70R15	262D
01-02	RS	3.5 & 3.8	P215 / 65R16	2652
01-02	RS	3.5 & 3.8	P215 / 60R17	25C8
02	RS	2.4	215 / 70R15	2B84
02	JR	2.0	P205/65R15 92T	2F D0
02	JR	2.4 & 2.7	P205/60R16 91T	2D 95
02	JR	2.4 & 2.7	P205/60R16 92V	2D 6A
02	JR	2.4 & 2.7	P205/65R15 92T	2D DC
02	JR	2.7	P215/50R17 93V	2D B1
02	PT44	2.4L	P195/65R15	2F 0E
02	PT44	2.4L	P205/55R16	2F 00
02	PT44	2.0L	P195/65R15	31 0A
02	PT44	2.0L	195/65R15	30 B1
02	PT44	2.0L	P205/55R16	30 FB
02	PT44	2.0L	205/55R16	30 FB
02	PT44	2.0L	185/65R15	31 EA
02	PL41	2.0L	P185/65R14	31 F7
02	PL41	2.0L	P185/60R15	31 F7
02	PL41	2.0L	P195/50R16	31 68
02	PL41	2.0L	P175/70R14	31 84
03	PL41	2.0L	P185/60/R15	30 F5

Chrysler / Jeep Electronic Pinion Factor

Year	Body	Engine Size	Tire Size	Pinion
03	PL41	2.0L	P195/50R16	31 68
03	PL41	2.0L	P175/70R14	31 84
03	PT44	2.4L	P195/65R15	2F 0E
03	PT44	2.4L	P205/55R16	2F 00
03	PT44	2.0L	P205/55R16	2F 00
03	PT44	2.0L	P195/65R15	31 0A
03	PT44	2.0L	195/65R15	30 B1
03	PT44	2.0L	P205/55R16	30 FB
03	PT44	2.4L	P205/50R17	2E 8D
03	PT44	2.4L	P205/50R17	2E 8D
03	PT44	2.0L	P205/55R16	30 CE
03	PT44	2.4L	P205/55R16	2E D4
03	JR	2.0L	P205/65R15 92T	2FD0
03	JR	2.7 & 2.7L	P205/60R16 91T	2D95
03	JR	2.7 & 2.7L	P205/65R15 92T	2DDC
03	JR	2.7L	P215/50R17 93V	2DB1
03	RS	3.3L	215 / 70R15	28 4A
03	RS	3.3L	215 / 65R16	28 72
03	RS	3.3L	215 / 60R17	27 E0
03	RS	3.8L	P215 / 70R15	26 2D
03	RS	3.8L	P215 / 65R16	26 52
03	RS	3.8L	P215 / 60R17	25 C8
03	RS	2.4 L	215 / 70R15	2B 84
03	LH	3.5L	P225/55R17 95V	29 0C
03	LH Police	3.5L	P225/60R16 97V	28 FF
03	LH 300M Special	3.5L	245/45ZR18 96Y	2B 80
04	P27	2.4L	P205/55R16	2E 9E
04	P27	2.4L	P205/55R17	2E 3A
04	CS	3.5L	P235/65R17	2B E6

**** Note:** 2.4L deleted for JX as of 1999 V2.*

***North American market and Europe*

OBD II Trip Status

The OBD II TRIP STATUS option shows when conditions have been met for engine warm-up and trip status. Because the required conditions vary per vehicle, please refer to the vehicle service manual for a complete listing of the conditions necessary for warm-up and for trip status.

To enable the OBD II Trip Status, follow this path:

Chrysler/Jeep > Special tests > **OBD II Trip Status.**

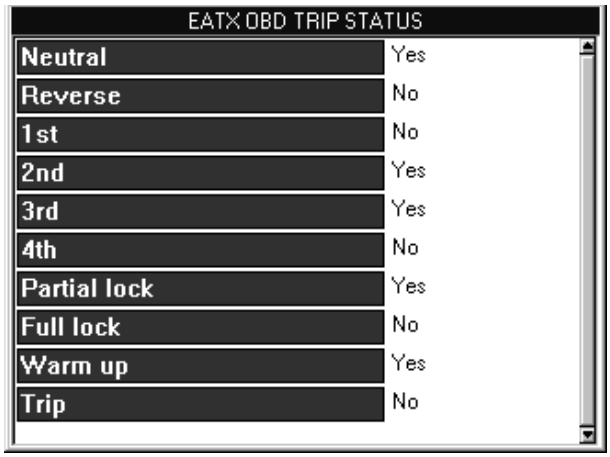


Figure 2.68: OBD II Trip Status

Note: *Full lock-up may not occur due to load conditions such as number of passengers, hilly terrain, etc.*

Menu Reference

OBD II Trip Status - Chrysler

Clutch Tests

The CLUTCH TESTS option gauges clutch slippage for each clutch pair on gears: Reverse (R), First (1), Second (2) and Third (3).

Before Testing

- Drive the vehicle until the transmission fluid is hot. This test will be "locked out" if the transmission temperature is not hot.
- Turn the vehicle ignition off before starting the test.
- Raise all vehicle drive wheels off the ground before starting this test.

To Enable Clutch Tests, follow these steps:

1 From the Diagnostic Function Menu, select Special tests > **Clutch Test.**

2 Apply the brake and place the vehicle in Park, keep the brake applied during the entire test.

3 Follow the instructions on each screen displayed during the entire test. Perform the test on all gears to determine which clutch is defective.

IMPORTANT:

- **Limit the length of testing time to five seconds per gear.**
- **If the turbine RPM does not stay near zero, reduce the TPS immediately and exit the test: This means that one or both of the gears is slipping.**
- **This test will cancel out if output shaft RPM is greater than 100 or if the Shift Lever Position (SLP) is moved after the clutch test has begun.**

---

4 Press EXIT when you are finished, then place the gear shift lever in park.

5 Hold the engine at 2000 RPM for two minutes to cool down the transmission between each test.

Menu Reference

Clutch Tests: Chrysler, Jeep

CCD Bus Monitor

The CCD BUS MONITOR option will display a listing of computers found on the Chrysler Collision Detection (CCD) bus, or it will indicate a bus failure.

To Enable Bus Monitor Status, follow these steps:

1 From Vehicle Selection Menu, select **CCD BUS MONITOR**.

Note: *If the message "BUS FAILURE" is displayed, the tester is not communicating with the computers on the vehicle. This could be due to a number of causes, check the following possibilities:*

• Make sure the ignition is ON.

• Make sure the tester cable connections are tight.

• Make sure the vehicle wire connections are tight.

• Disconnect one computer at a time to locate the computer that is shorting out the CCD bus.

Note: *Most computers will respond if the ignition key is in the ON position. However, some computers will respond when the key is in the UNLOCKED position. Test with the key in both positions.*

Note: *The Antilock Brake System (ABS) computer will respond only if it is a TEVES system on a Chrysler LH vehicle or a 1996 Chrysler minivan. Most of the other ABS computers are not located on the Chrysler Collision Detection (CCD) bus.*

Menu Reference

CCD Bus Monitor: Chrysler, Jeep

OTHER TESTS

The Other Tests option assembles a menu listing an additional collection (dependent on installed vehicle options) of special tests available.

To view Other Tests, follow this path:

Chrysler/Jeep > Special tests > **Other Tests**

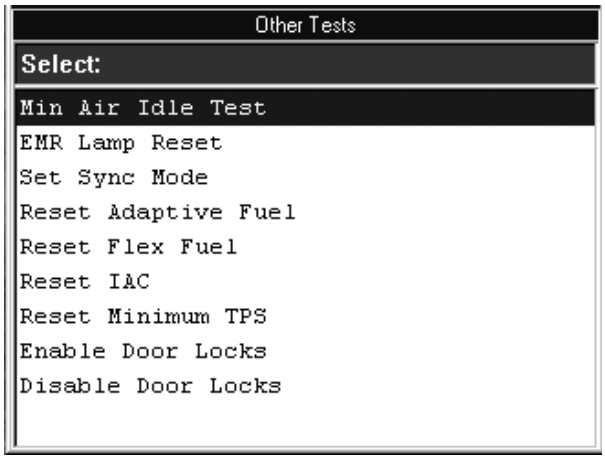


Figure 2.69: Other Tests

Menu Reference

Other Tests: Chrysler or Jeep

Minimum Air Idle Speed

The Minimum Air Idle Speed test verifies that the fixed minimum throttle body opening is correct.

To activate the Minimum Air Idle test, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > **Minimum Air Idle Speed.**

2 Follow the pre-test conditions listed on-screen to prepare the vehicle for testing.

3 View and respond to the on-screen directions to complete the test procedure.

A RPM screen will show the present RPM. If the test indicates out-of-range Revolutions Per Minute (RPM), clean the throttle body and then test again. Suspect a bad throttle body if the test indicates that the RPM is still out-of-range.

When testing is completed and the necessary repairs have been made, perform the “Reset Minimum TPS” test. See “**Reset Minimum Throttle Position Sensor**” on page 60.

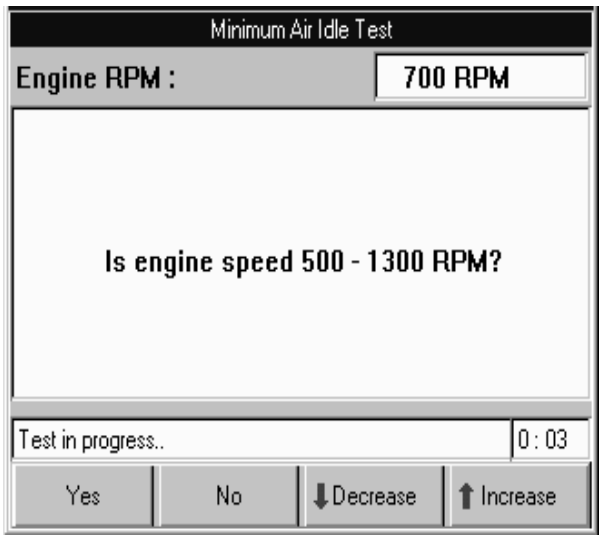


Figure 2.70: Minimum Air Idle Speed

Menu Reference

Minimum Air Idle Speed: Chrysler or Jeep

Emission Maintenance Reminder (EMR) Lamp Reset

The Emissions Maintenance Reminder Lamp Reset allows you to reset the truck and van Emissions Maintenance Reminder (EMR) dashlight (also identified as SRI light) once the proper maintenance has been performed.

To reset the Emission Maintenance Reminder Lamp, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > **EMR Lamp Reset.**

2 View and respond to the on-screen directions to reset the EMR Lamp.

Menu Reference

EMR Lamp Reset: Chrysler or Jeep

Set Synchronization Mode

The Set Synchronization Mode is used to reset the timing to zero (0) degrees.

To set the Synchronization Mode, follow these steps:

1 Reset the distributor or the cam or crank sensor, depending upon the vehicle, to zero (0) degrees.

2 Follow this path: Chrysler/Jeep > Special tests > Other Tests > **Set Sync Mode.**

IMPORTANT:

- **Do not press the accelerator during this timing reset mode, this will stop the synchronization process. The test would have to be restarted. The engine computer will readjust the timing to the optimum setting.**

Menu Reference

Set Sync Mode: Chrysler or Jeep

Reset Idle Air Control

The Reset Idle Air Control sets the Idle Air Control (IAC) adjustment to the factory default setting. This option is used when an IAC motor has been replaced or disconnected.

To set the Idle Air Control, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > **Reset Idle Air Control.**

2 Follow the on-screen instructions.

Menu Reference

Reset Idle Air Control: Chrysler or Jeep

Reset Adaptive Fuel

The Reset Adaptive Fuel sets the adaptive fuel adjustment to the factory default setting. This adjustment is used any time a component that affects the fuel system is replaced. Resetting the Adaptive Fuel adjustment is particularly important to be sure that the O2 sensor is in the proper range.

To reset the Adaptive Fuel adjustment, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > **Reset Adaptive Fuel.**

2 Follow the on-screen instructions.

Menu Reference

Reset Adaptive Fuel: Chrysler or Jeep

Reset Minimum Throttle Position Sensor

The Reset Minimum Throttle Position Sensor resets the Throttle Position Sensor (TPS) adjustment to the factory default setting. This option is performed after the "**Minimum Air Idle Speed**" on page 59 is used, when the Idle Air Control (IAC) is adjusted or when the TPS sensor has been replaced.

To reset the Minimum Throttle Position, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > **Reset Minimum TPS.**

2 Follow the on-screen instructions.

Menu Reference

Reset Minimum TPS: Chrysler or Jeep

Reset Flexible Fuel Percent

The Reset Flexible Fuel Percent resets the flexible fuel adjustment to the factory default setting.

To reset the Flexible Fuel Percent, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > **Reset Flexible Fuel Percent.**

2 Follow the on-screen instructions.

Menu Reference

Reset Flexible Fuel Percent: Chrysler or Jeep

Enable Door Lock

The Enable Door Lock sets the automatic door-locking feature to the ON setting.

To set the Enable Door Lock, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > **Enable Door Lock.**

2 Follow the on-screen instructions.

Menu Reference

Enable Door Lock: Chrysler or Jeep

Disable Door Lock

The Disable Door Lock sets the automatic door-locking feature to the OFF setting.

To set the Disable Door Lock, follow these steps:

1 Chrysler/Jeep > Special tests > Other Tests > Disable Door Lock

2 Follow the on-screen instructions.

Menu Reference

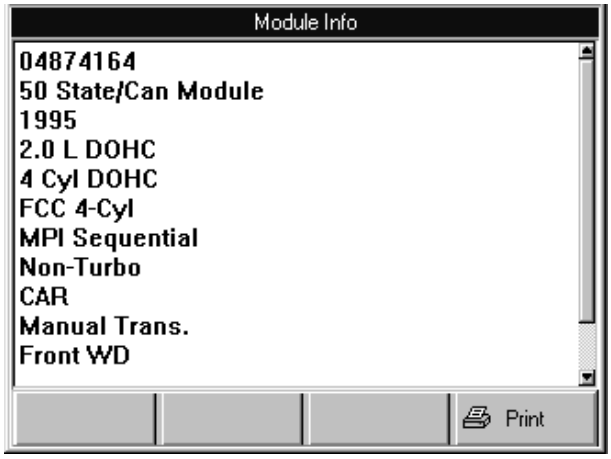
Disable Door Lock: Chrysler or Jeep

Module Information

The Module Information option will query the vehicle computer and display vehicle specific information such as engine size, emissions information and other variable vehicle specifications.

To view Module Information, follow this path:

Chrysler/Jeep > Special tests > **Module Information.**



Menu Reference

Module Information: Chrysler or Jeep

Vehicle Information

The Vehicle Information option provides specifications, related Technical Service Bulletins (TSBs), system information and any other relevant information provided by the vehicle computer.

To view Vehicle Information, follow this path:

GM/Saturn/Ford/Chrysler/Jeep > **Vehicle Information**

Menu Reference

Vehicle Information: GM, Saturn, Ford, Chrysler or Jeep

Specifications

The Specifications option provides tune-up, engine and system specifications.

To view Specifications Information, follow this path:

GM/Saturn/Ford/Chrysler/Jeep > Vehicle Information > **Specifications.**

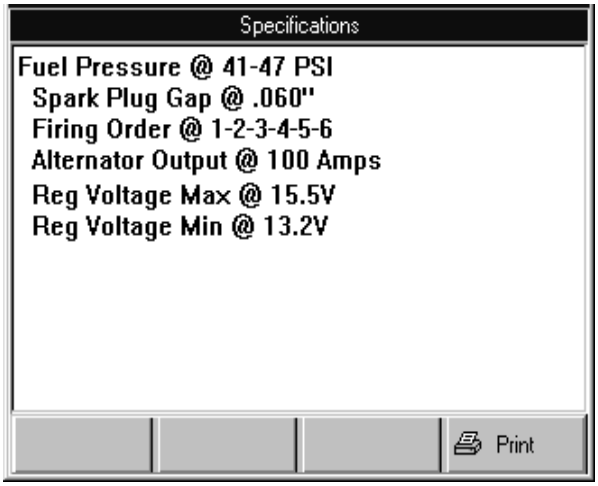


Figure 2.71: Specifications

Menu Reference

Specifications: GM, Saturn, Ford, Chrysler or Jeep

Related TSBs

The Related Technical Service Bulletins (TSBs) option provides a list of the technical service bulletins that apply to the vehicle.

To see related TSBs, follow these steps:

1 GM/Saturn/Ford/Chrysler/Jeep > Vehicle Information > **Related TSBs**

1 Select a TSB to view and press ENTER to see a brief description of the bulletin.

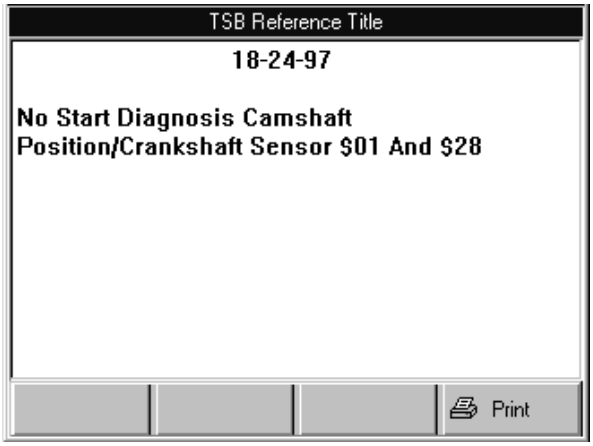


Figure: Service Bulletin

Menu Reference

Related TSBs: GM, Saturn, Ford, Chrysler or Jeep

System Type

The System Type option provides vehicle and system identification information.

To view System Type Information, follow this path:

GM/Saturn/Ford/Chrysler/Jeep > Vehicle Information > **System Type.**

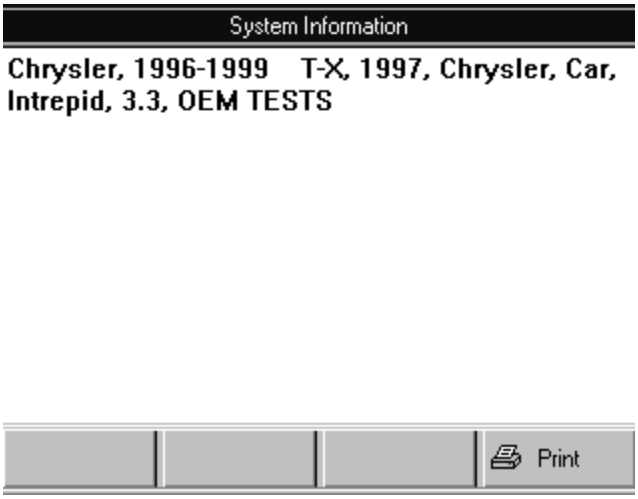


Figure 2.72: System Information

Menu Reference

System Type: GM, Saturn, Ford, Chrysler or Jeep

Programmable Read Only Memory Identification

The Programmable Read Only Memory (PROM) Identification reads the 4-digit PROM identification number and any additional PROM related information.

To view PROM Information, follow this path:

GM > Vehicle Information > **PROM Identification**

Menu Reference

PROM Identification: GM

Pathfinder Quick Path

The powerful Pathfinder Quick Path troubleshooting option provides quick tests expertly edited from vehicle manufacturer recommended procedures, tells you where to look in the reference materials, and provides critical information such as tune-up specifications, sensor operating values, symptom diagnostics and Technical Service Bulletins.

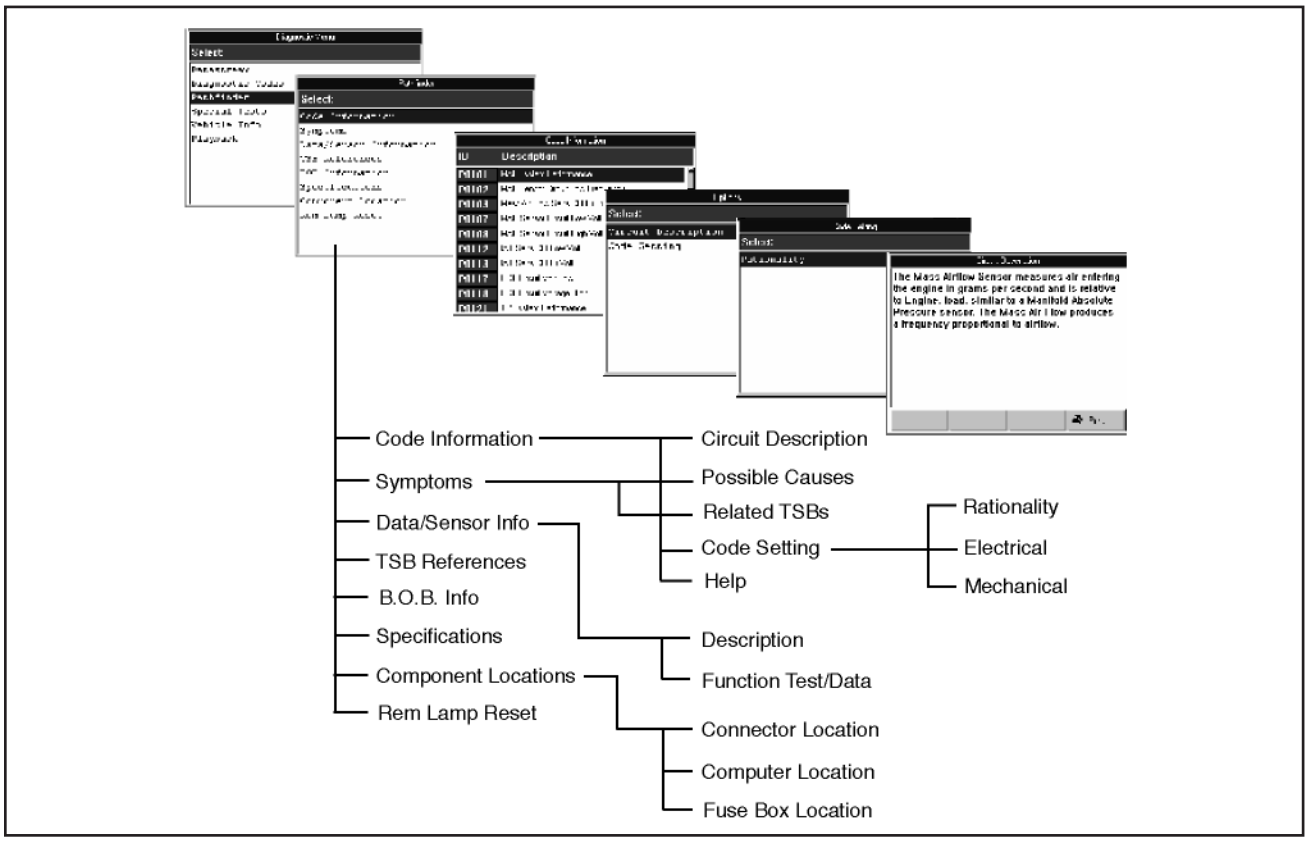


Figure 2.73: Pathfinder Quick Path

To view Pathfinder Quick Path, follow this path:

All 1992 - 2002 Vehicles > **Pathfinder**

Menu Reference

Pathfinder: 1992-2002 GM, Saturn, Ford, Chrysler or Jeep

Repair Trac

Repair Trac is a databank of repairs for those hard-to-diagnose “pattern failures” on vehicles with 50,000 or more miles.

To view Repair Trac, follow these steps:

1 GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Repair Trac.** This displays the Repair Trac Symptoms screen for the vehicle.

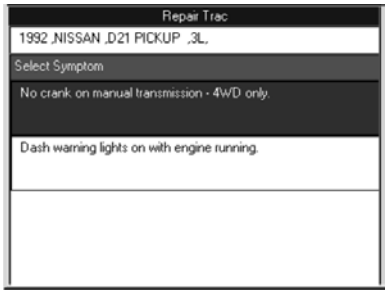

Repair Trac
1992 ,NISSAN ,D21 PICKUP ,3L,
Select Symptom
No crank on manual transmission - 4WD only.
Dash warning lights on with engine running.

Figure 2.74: Repair Trac

2 From the list of symptoms, select a symptom to view and press the **ENTER** key. This displays the Repair Trac Problems and Fixes screen.

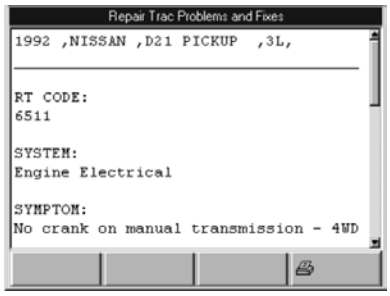


Figure 2.75: Repair Trac Problems and Fixes Screen

Note: *the RT on this screen is for Repair Trac reference, it is not a part of the Diagnostic Trouble Code (DTC).*

3 View the description and print it if necessary. For printing information, refer to “**Print**” on page 20

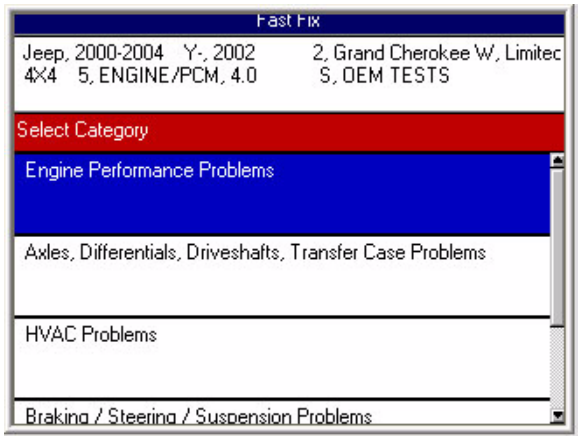
4 When finished press the **EXIT** key to return to previous screens.

Fast Fixes

Fast Fixes are a vehicle-specific diagnostic checklist of the most likely fixes or possible overlooked causes of common problems for the vehicle-identified vehicle.

To view Fast Fixes, follow these steps:

GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Fast Fixes.** This displays the Fast Fixes most likely and most overlooked repairs screen for the vehicle.


Fast Fix
Jeep, 2000-2004 Y-, 2002 2, Grand Cherokee W, Limitec
4X4 5, ENGINE/PCM, 4.0 S, OEM TESTS
Select Category
Engine Performance Problems
Axles, Differentials, Driveshafts, Transfer Case Problems
HVAC Problems
Braking / Steering / Suspension Problems

Code Information

The Code Information option lists all of the Diagnostic Trouble Codes that can occur on the vehicle tested. Select a Diagnostic Trouble Code from the list to see the Circuit Description, Possible Causes, Related Technical Service Bulletins (TSBs), Breakout Box circuit specifications and Code Setting conditions.

To view Code Information, follow these steps:

1 GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Code Information**

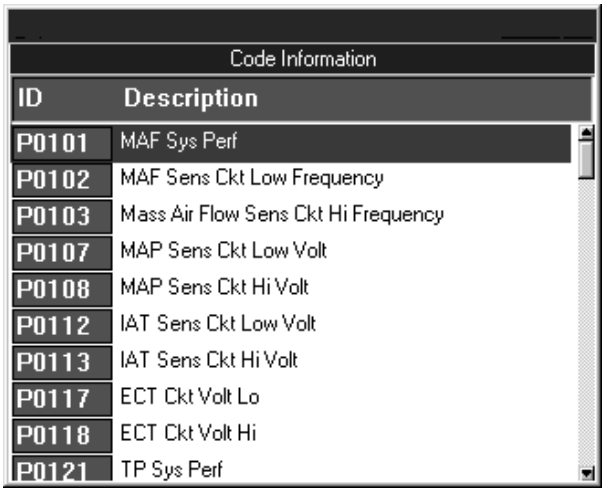

Code Information
ID Description
P0101 MAF Sys Perf
P0102 MAF Sens Ckt Low Frequency
P0103 Mass Air Flow Sens Ckt Hi Frequency
P0107 MAP Sens Ckt Low Volt
P0108 MAP Sens Ckt Hi Volt
P0112 IAT Sens Ckt Low Volt
P0113 IAT Sens Ckt Hi Volt
P0117 ECT Ckt Volt Lo
P0118 ECT Ckt Volt Hi
P0121 TP Sys Perf

Figure 2.76: Diagnostic Trouble Code Information

2 If you are viewing code information for a Ford, select from KOEO On Demand (“**Key-On, Engine-Off Self-Test**” on page 26) KOEO Memory (“**Key-On, Engine-Off Self-Test**”

on page 26) or KOER codes("**Key-On, Engine-Running Self-Test**" on page 27). All other vehicle applications will display all diagnostic codes.To view information for a specific Diagnostic Trouble Code, select it from the list and press ENTER.

3 From the menu displayed, select from the following options:

- **Circuit Description -** displays a summary of the circuit operation for the Diagnostic Trouble Code.
- **Possible Causes** - lists a number of possibilities that may have caused the Diagnostic Trouble Code to be set.
- **Related Technical Service Bulletins (TSBs)** - lists all the TSB numbers available for the Diagnostic Trouble Code.
- **Code Setting** - describes the pre-test conditions (the Enable phase) that must be met before a system test can be actuated. It also displays a menu to select from to view the reason for the Diagnostic Trouble Code. It shows if the fault is a sensor related, electrical or mechanical failure (the Failure statement). From the menu displayed, select a failure statement (Rationality, Electrical or Mechanical) to view.

More about Failure Statements

Rationality - The Rationality option describes sensor activity that doesn't fit within acceptable parameters when it is compared to other sensor activity. This option will be displayed only if it is applicable to the diagnostic code selected. There may be more than one set of Enable and Failure conditions, be sure to review all conditions reported.

When Rationality is displayed, the "Enable" pre-test conditions required before a system test can be activated are described. For some system tests, more than one phase of pre-test conditions are required: all phases will be described sequentially. The "Failure" conditions required for a diagnostic code to be set are described last.

*Tip: Check the Freeze Frame option, see "**Freeze Frame**" on page 24 if the diagnostic code is emissions related. Some Rationality statements depend on engine hot, engine cold or other conditions to be met before the statement is valid.*

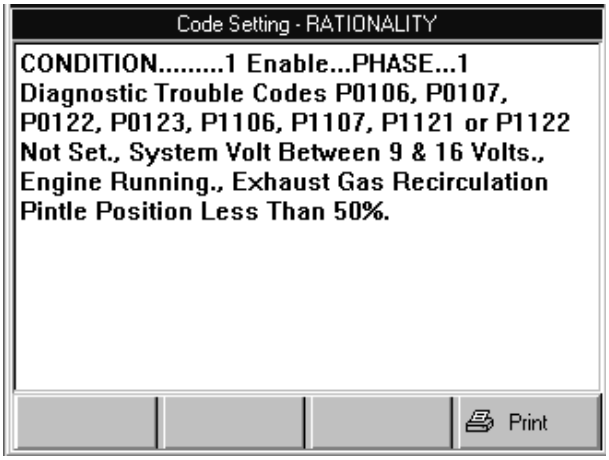

Code Setting - RATIONALITY
CONDITION.....1 Enable...PHASE...1
Diagnostic Trouble Codes P0106, P0107,
P0122, P0123, P1106, P1107, P1121 or P1122
Not Set., System Volt Between 9 & 16 Volts.,
Engine Running., Exhaust Gas Recirculation
Pintle Position Less Than 50%.
Print

Figure 2.77: Failure Statement

Electrical - The Electrical option identifies problems related to unacceptable electrical ranges encountered during system tests. This option will be displayed only if it is applicable to the diagnostic code selected. There may be more than one set of Enable and Failure conditions, be sure to review all conditions reported.

*Tip: Check the Freeze Frame option, see "**Freeze Frame**" on page 24 if the diagnostic code is emissions related. Some Electrical Information statements depend on engine hot, engine cold or other conditions to be met before the statement is valid.*

When Electrical is displayed, the "Enable" pre-test conditions required before a system test can be activated are described. For some system tests, more than one phase of pre-test conditions are required: all phases will be described sequentially. The "Failure" conditions required for a diagnostic code to be set are described last.

Mechanical - The Mechanical option identifies problems related to unacceptable mechanical conditions encountered during system tests. This option will be displayed only if it is applicable to the diagnostic code selected. There may be more than one set of Enable and Failure conditions, be sure to review all conditions reported.

First, the “Enable” pre-test conditions required before a system test can be activated are described. For some system tests, more than one phase of pre-test conditions are required: all phases will be described sequentially. The “Failure” conditions required for a diagnostic code to be set are described last.

*Tip: Check the Freeze Frame option, see “**Freeze Frame**” on page 24 if the diagnostic code is emissions related. Some Mechanical Information statements depend on engine hot, engine cold or other conditions to be met before the statement is valid.*

Menu Reference

Code Information: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

Symptoms

The Symptoms option lists symptoms of a vehicle malfunction. Select a symptom description and Pathfinder will list Possible Causes and a list of Technical Service Bulletins which apply:

- **Possible Causes for vehicle diagnostics** - lists a number of possibilities that may have caused the symptom.
- **Technical Service Bulletins** - lists all of the Technical Service Bulletin (TSB) numbers associated with the symptom.

To view Symptom Information, follow this Path:

GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Symptoms**

Menu Reference

Symptoms: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

Data/Sensor Information

The Data/Sensor option lists all the sensors available through the data stream. This option is available at any time, it does not require that the tool be connected to the vehicle to view the information.

To view Data/Sensor Information, follow these steps:

1 GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Data/Sensor Information.**

2 Select a sensor from the list to view the following options:

- **Description** – displays a description of the sensor
- **Functional Test/Data** – displays a graph of the sensor if the tool is connected to the vehicle. A typical value for the sensor, and related information, is displayed when the tool is connected or not connected.

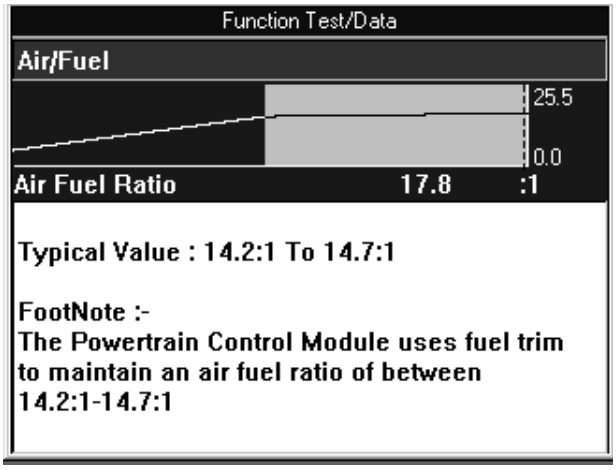


Figure 2.78: Functional Test and Data

Menu Reference

Data/Sensor Information: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

TSB References

The Technical Service Bulletin (TSB) option lists the TSB number references.

To view TSB References, follow these steps:

1 GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > TSB References

2 Select a TSB from the list to view a quick summary.

Menu Reference

TSB References: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

B.O.B Information

The Breakout Box (B.O.B.) option lists test values for the sensors located at the B.O.B. pin-out terminals.

To view B.O.B Information, follow these steps:

1 GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **B.O.B. Info**

2 Select a break-out box pin number from the list, and then press ENTER to view the pin information.

3 Press ENTER again to return to the pin list, or press EXIT to quit.

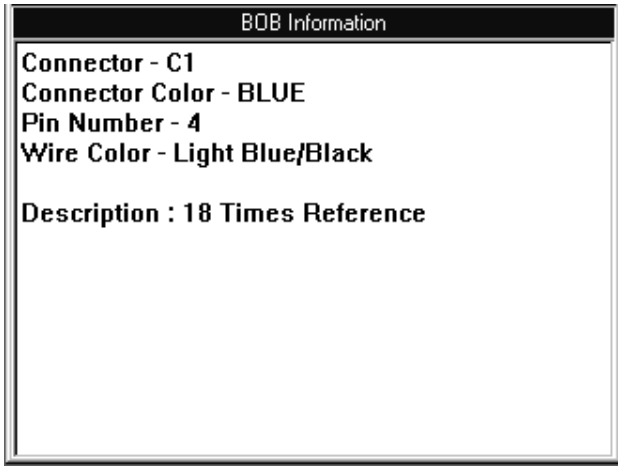


Figure 2.79: Break-out Box Information

Menu Reference

B.O.B. Info: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

Specifications

The Specifications option provides tune-up, engine and system specifications.

To view Specifications Information, follow this path:

GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Specifications**

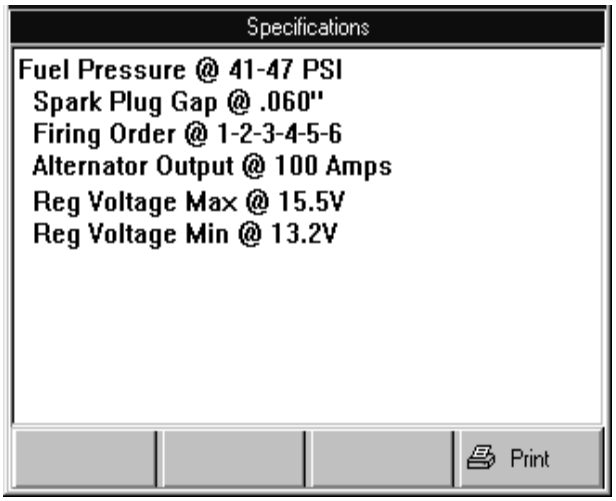


Figure 2.80: Specifications

Menu Reference

Specifications: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

Component Locations

The Component Locations lists the locations of the vehicle computer, fuse box and Data Link Connector.

To view Component Locations, follow these steps:

1 GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Component Locations**

2 From the menu displayed, select from the following options:

- **Connector Location** - describes where the Data Link Connector (DLC) is located on the vehicle.
- **Computer Location** - describes where the vehicle computers are located on the vehicle.
- **Fuse Box Location** - describes where each fuse box is located on the vehicle.

Menu Reference

Component Locations: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

Reminder Lamp Reset

The method used to reset a maintenance reminder lamp varies between vehicles and manufacturers. The Reminder Lamp Reset option describes how to reset the maintenance lamp for the vehicle entered for testing.

To view Reminder Lamp Reset, follow this Path:

GM/Saturn/Ford/Chrysler/Jeep > Pathfinder > **Reminder Lamp Reset**

Menu Reference

Reminder Lamp Reset: 1992-2001 GM, Saturn, Ford, Chrysler or Jeep

Appendix

Vehicle Diagnostic Menus

Diagnostic Menu

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
DATA STREAM page 9	X	X	X	X	X	X	
PCM CONFLICT page 12				X			
GM Diagnostic States page 22	X						
Field Service page 22	X						
Back-up Fuel page 22	X						
ALDL State page 22	X						
DIAGNOSTIC CODES page 23	X	X	X	X	X	X	X
SELF DIAGNOSTICS page 25						X	X
ON DEMAND TEST page 28						X	X
WIGGLE TEST page 29						X	X
SEAT CALIBRATION page 28						X	
SPD CABLE SLACK page 28						X	
AUDIO NET TEST page 28						X	
ACCURATE TRIM page 28						X	X
PNEUMATIC TEST page 28						X	X
KOEO SELF TEST page 26						X	

Diagnostic Menu (Continued)

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
KOEO INJ BUZZ page 26						X	
KOEO OUTPUT STATE page 26						X	
KOER SELF TEST page 27						X	
KOER GLOW PLUG page 27						X	
KOER CYL CONTRIB. page 27						X	
KOER SWITCH TEST page 27						X	
READ CODES page 23	X	X	X	X	X	X	X
CURRENT CODES page 23	X	X					
FAIL SINCE CLEAR page 24	X	X					
DTC STATUS page 24	X	X					
FAILURE RECORDS page 25	X	X					
PENDING CODES page 23	x	x		X		x	
REVIEW CODES							X
CLEAR CODES page 24	X	X	X	X	X	X	X
SERVICE BAY							X
AUTOMATIC TEST							X
FREEZE FRAME page 24	x	x	X	X		X	
CODE HISTORY page 29			X				
TRIP COUNTS page 30					X		
REPAIR TRAC page 7	X	X	X	X		X	

Diagnostic Menu (Continued)

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
PATHFINDER page 63	X	X	X	X		X	
CODE INFORMATION page 64	X	X	X	X		X	
CKT DESCRIPTION page 65	X	X	X	X		X	
POSSIBLE CAUSES page 65	X	X	X	X		X	
RELATED TSBs page 65	X	X	X	X		X	
B.O.B. INFO page 66	X	X	X	X		X	
WIGGLE TEST page 29						X	
CODE SETTING page 65	X	X	X	X		X	
RATIONALITY page 65	X	X	X	X		X	
ELECTRICAL page 65	X	X	X	X		X	
MECHANICAL page 65	X	X	X	X		X	
SYMPTOMS page 66	X	X	X	X		X	
POSSIBLE CAUSES page 66	X	X	X	X		X	
RELATED TSBs page 65	X	X	X	X		X	
DATA/SENSOR INFORMATION page 66	X	X	X	X		X	
DESCRIPTION page 66	X	X	X	X		X	
FUNCTIONAL TEST page 66	X	X	X	X		X	
RELATED TSBs page 61	X	X	X	X		X	
TSB REFERENCES page 66	X	X	X	X		X	
SPECIFICATIONS page 67	X	X	X	X		X	
COMPONENT LOCATION page 67	X	X	X	X		X	
CONNECTOR LOCATION page 67	X	X	X	X		X	

Diagnostic Menu (Continued)

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
COMPUTER LOCATION page 67	X	X	X	X		X	
FUSE BOX LOCATION page 67	X	X	X	X		X	
REM LAMP RESET page 68	X	X	X	X		X	
SPECIAL TESTS page 31	X	X	X	X	X	X	
OUTPUT CONTROLS page 34						X	
HI SPEED FAN ON page 34						X	
LO SPEED FAN ON page 34						X	
ALL OUTPUTS ON page 35						X	
ENGINE CONTROLS page 35	X	X					
AIR PUMP page 35	X	X					
CRANKSHAFT LEARN page 36	X	X					
FAN ON/OFF page 36	X	X					
HIGH FAN page 36	X	X					
LOW FAN page 36	X	X					
IAC POSITION page 37	X	X					
IAC RPM page 37	X	X					
SPARK RETARD page 37	X	X					
EVAP EGR CONTROL page 37	X	X					
CAN PURGE SOL page 38	X	X					
CAN VENT SOL page 38	X	X					
EGR CONTROL page 38	X	X					
EGR VENT SOL page 39	X	X					

Diagnostic Menu (Continued)

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
EVAP SERVICE TST page 39	X	X					
FUEL SYS CONTROL page 39	X	X					
FUEL PUMP RELAY page 39	X	X					
FUEL INJ DISABLE page 40	X	X					
FUEL CLOSED LOOP page 40	X	X					
FUEL TRIM RESET page 40	X	X					
DIESEL CONTROLS page 40	X						
BOOST CONTROL page 41	X						
ENGINE SHUTOFF page 41	X						
FUEL INJ TIMING page 42	X						
GLOW PLUG RELAY page 42	X						
ENGINE IND LAMPS page 42	X	X					
ALTERNATOR LAMP page 43	X	X					
CHANGE OIL LAMP page 43	X	X					
CHECK GAUGES LMP page 43	X	X					
ENGINE HOT LAMP page 43	X	X					
LOW COOLANT LAMP page 43	X	X					
MIL LAMP page 44	X	X					
OIL LEVEL LAMP page 44	X	X					

Diagnostic Menu (Continued)

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
OIL PRESSURE LAMP page 44	X	X					
STS LAMP page 44	X	X					
TRANSMISSION CONTROLS page 44	X	X					
PRESSURE CONTROL page 45	X	X					
REVERSE INHIBIT page 45	X	X					
TCC CONTROL page 45	X	X					
TRANSMISSION GEAR page 46	X	X					
3-2 SHIFT SOLENOID page 46	X	X					
P/R ADAPTIVE PARAMETERS page 46	X	X					
SKIP SHIFT CONTROL page 46	X						
TRANSMISSION LAMPS page 47	X	X					
1-4 SHIFT LAMP page 47	X						
2ND GEAR STRT LAMP page 47	X	X					
SHIFT LAMP page 47	X	X					
UPSHIFT LAMP page 47	X	X					
ACCESSORY CNTRLS page 48	X	X					
A/C CLUTCH RELAY page 48	X	X					
ALT L-TERMINAL page 48	X	X					
CRUISE INHIBIT page 48	X	X					
READINESS STATUS page 31	X	X	X	X		X	

Diagnostic Menu (Continued)

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
DRIVE CYCLE page 32	X	X	X	X		X	
O2 TESTS page 32	X	X		X		X	
COMP PARAMETER page 33	X	X	X	X		X	
IAC TEST page 49			X				
MODULE INFO page 61			X				
OTHER TESTS page 59			X				
MIN AIR IDLE SPD page 59			X				
EMR LAMP RESET page 59			X				
SET SYNC MODE page 59			X				
RESET IAC page 60			X				
RESET ADAPT FUEL page 60			X				
SET MIN TPS page 60			X				
RESET FLEX FUEL% page 60			X				
ENABLE DOOR LOCK page 60			X				
DISABLE DOOR LOCK page 61			X				
E/D TESTS page 49			X				
SWITCH TEST page 50					X		
ALL SWITCHES page 50					X		
SHIFT LEVEL POS page 50					X		
PRESSURE SWITCHES page 52					X		
ACTUATOR TEST page 53					X		
CLUTCH VOLUME INDEX page 53					X		

Diagnostic Menu (Continued)

	General Motors	Saturn	Chrysler/Jeep	Chrysler/OBD II	Chrysler Automatic Transmission (EATX)	Ford	Ford Suspension
EMCC STATUS page 54					X		
QUICK LEARN page 54					X		
BATT DISCONNECT page 54					X		
PINION FACTOR page 54					X		
OBDII TRIP STAT page 58					X		
CLUTCH TESTS page 58					X		
CCD BUS MONITOR page 58			X				
VEHICLE INFO page 61	X	X	X	X	X	X	
SPECIFICATIONS page 61	X	X	X			X	
TSB REFERENCE page 66	X	X	X			X	
PROM ID page 62	X	X					
SYSTEM TYPE page 62	X	X	X	X	X	X	

Vehicle Applications

Vehicle	Model	Computer	First Year Equipped	Last Year Equipped
Chrysler	300M	ABS	1999	2004
Chrysler	300M	BODY	1999	2004
Chrysler	300M	CLIMATE CONTROL	2001	2004
Chrysler	300M	ENGINE	1999	2004
Chrysler	300M	ENGINE-OBDII	1999	2004
Chrysler	300M	INST CLUSTER	2001	2004
Chrysler	300M	AIRBAG	2000	2004
Chrysler	300M	SKIM	1999	2004
Chrysler	300M	TRANSMISSION	1999	2004
Chrysler	Cirrus	ABS	1998	2000
Chrysler	Cirrus	BODY	1995	2000
Chrysler	Cirrus	CCD BUS MONITOR	1995	1999
Chrysler	Cirrus	ENGINE-OBDII	1995	2000
Chrysler	Cirrus	INST CLUSTER	1995	2000
Chrysler	Cirrus	AIRBAG	1999	2000
Chrysler	Cirrus	ENGINE	1995	2000
Chrysler	Cirrus	TRANSMISSION	1995	2000
Chrysler	Concorde	ABS	1993	2004
Chrysler	Concorde	ABS (w/TCS)	1993	1997
Chrysler	Concorde	BODY	1993	2004
Chrysler	Concorde	ENGINE	1993	2004
Chrysler	Concorde	INST CLUSTER	2001	2004
Chrysler	Concorde	SKIM	1999	2004
Chrysler	Concorde	TRANSMISSION	1993	2004
Chrysler	Concorde	AIRBAG	2000	2004
Chrysler	Concorde	CCD BUS MONITOR	1993	1997
Chrysler	Concorde	CLIMATE CONTROL	2001	2004
Chrysler	Concorde	ENGINE-OBDII	1996	2004
Chrysler	Crossfire	ENGINE-OBDII	2004	2004
Chrysler	Dynasty	ABS	1989	1990
Chrysler	Dynasty	BODY	1992	1993
Chrysler	Dynasty	CCD BUS MONITOR	1992	1993
Chrysler	Dynasty	TRANSMISSION	1992	1993
Chrysler	Dynasty	ENGINE	1989	1993
Chrysler	E Class	ENGINE	1984	1984
Chrysler	Executive	ENGINE	1984	1986
Chrysler	Imperial	CCD BUS MONITOR	1992	1993
Chrysler	Imperial	TRANSMISSION	1992	1993
Chrysler	Imperial	BODY	1992	1993
Chrysler	Imperial	ENGINE	1990	1993
Chrysler	Incomplete Veh	CCD BUS MONITOR	1992	1994
Chrysler	Incomplete Veh	TRANSMISSION	1992	1994
Chrysler	Incomplete Veh	ENGINE	1990	1994
Chrysler	Intrepid	ABS	1995	1997
Chrysler	Intrepid	ENGINE-OBDII	1996	1997
Chrysler	Intrepid	TRANSMISSION	1995	1997
Chrysler	Intrepid	ABS (w/TCS)	1995	1997
Chrysler	Intrepid	BODY	1995	1997
Chrysler	Intrepid	CCD BUS MONITOR	1995	1997
Chrysler	Intrepid	ENGINE	1995	1997
Chrysler	Laser	ENGINE	1984	1986

Vehicle Applications

Chrysler	Lebaron	ENGINE	1984	1995
Chrysler	Lebaron	BODY	1994	1995
Chrysler	Lebaron	CCD BUS MONITOR	1992	1995
Chrysler	Lebaron	TRANSMISSION	1992	1995
Chrysler	LHS	ABS	1994	2001
Chrysler	LHS	AIRBAG	2000	2001
Chrysler	LHS	CCD BUS MONITOR	1994	1997
Chrysler	LHS	ENGINE-OBDII	1996	2001
Chrysler	LHS	TRANSMISSION	1994	2001
Chrysler	LHS	ABS (w/TCS)	1994	1997
Chrysler	LHS	BODY	1994	2001
Chrysler	LHS	CLIMATE CONTROL	2001	2001
Chrysler	LHS	ENGINE	1994	2001
Chrysler	LHS	INST CLUSTER	2001	2001
Chrysler	LHS	SKIM	1999	2001
Chrysler	Mini-Van	CCD BUS MONITOR	1994	1994
Chrysler	Mini-Van	ENGINE	1990	1994
Chrysler	Mini-Van	TRANSMISSION	1994	1994
Chrysler	Neon (Mexico)	CCD BUS MONITOR	1996	1997
Chrysler	Neon (Mexico)	ENGINE	1995	1997
Chrysler	Neon (Mexico)	ENGINE-OBDII	1995	1997
Chrysler	New Yorker	ABS (w/TCS)	1994	1997
Chrysler	New Yorker	CCD BUS MONITOR	1992	1997
Chrysler	New Yorker	ENGINE-OBDII	1996	1997
Chrysler	New Yorker	TRANSMISSION	1992	1997
Chrysler	New Yorker	ABS	1989	1997
Chrysler	New Yorker	BODY	1992	1997
Chrysler	New Yorker	ENGINE	1984	1997
Chrysler	Pacifica	CLIMATE (ATC)	2004	2004
Chrysler	Pacifica	ENGINE EARLY (SBEC)	2004	2004
Chrysler	Pacifica	AIRBAG	2004	2004
Chrysler	Pacifica	BODY	2004	2004
Chrysler	Pacifica	ENGINE LATE (NGC)	2004	2004
Chrysler	Pacifica	ENGINE-OBDII	2004	2004
Chrysler	Pacifica	FRONT CONTROL MODULE	2004	200
Chrysler	Pacifica	INSTRUMENT CLUSTER	2004	2004
Chrysler	Pacifica	SKREEM	2004	2004
Chrysler	Pacifica	TRANSMISSION	2004	2004
Chrysler	PT Cruiser	ABS	2001	2004
Chrysler	PT Cruiser	ENGINE	2001	2004
Chrysler	PT Cruiser	ENGINE-OBDII	2001	2004
Chrysler	PT Cruiser	SKIM	2001	2004
Chrysler	PT Cruiser	AIRBAG	2001	2004
Chrysler	PT Cruiser	CLUSTER CONTROL	2001	2003
Chrysler	PT Cruiser	INSTRUMENT CLUSTER	2004	2004
Chrysler	PT Cruiser	TRANSMISSION	2001	2004
Chrysler	Sebring	CCD BUS MONITOR	1995	1995
Chrysler	Sebring	ENGINE	1995	1995
Chrysler	Sebring	ENGINE-OBDII	1995	1995
Chrysler	Sebring	TRANSMISSION	1995	1995
Chrysler	Sebring Conv.	ABS	1998	2004
Chrysler	Sebring Conv.	BODY	1996	2004

Vehicle Applications

Chrysler	Sebring Conv.	ENGINE EARLY (SBEC)	2004	2004
Chrysler	Sebring Conv.	ENGINE LATE (NGC)	2004	2004
Chrysler	Sebring Conv.	ENGINE-OBDII	1996	2004
Chrysler	Sebring Conv.	SKIM	1999	2004
Chrysler	Sebring Conv.	TRANSMISSION	1996	2004
Chrysler	Sebring Conv.	AIRBAG	1999	2004
Chrysler	Sebring Conv.	CCD BUS MONITOR	1996	1999
Chrysler	Sebring Conv.	ENGINE	1996	2003
Chrysler	Sebring Conv.	INST CLUSTER	1996	2003
Chrysler	Sebring Conv.	INSTRUMENT CLUSTER	2004	2004
Chrysler	Sebring Coupe	ENGINE	1996	2000
Chrysler	Sebring Coupe	TRANSMISSION	1996	2000
Chrysler	Sebring Coupe	CCD BUS MONITOR	1996	1999
Chrysler	Sebring Coupe	ENGINE-OBDII	1996	2004
Chrysler	Sebring Sedan	AIRBAG	2001	2004
Chrysler	Sebring Sedan	BODY	2001	2004
Chrysler	Sebring Sedan	ENGINE	2001	2003
Chrysler	Sebring Sedan	ENGINE EARLY (SBEC)	2004	2004
Chrysler	Sebring Sedan	INST CLUSTER	2001	2003
Chrysler	Sebring Sedan	TRANSMISSION	2001	2004
Chrysler	Sebring Sedan	ABS	2001	2004
Chrysler	Sebring Sedan	ENGINE LATE (NGC)	2004	2004
Chrysler	Sebring Sedan	ENGINE-OBDII	2001	2004
Chrysler	Sebring Sedan	INSTRUMENT CLUSTER	2004	2004
Chrysler	Sebring Sedan	SKIM	2001	2004
Chrysler	Spirit (Mex)	CCD BUS MONITOR	1995	1995
Chrysler	Spirit (Mex)	ENGINE	1995	1995
Chrysler	Town & Country	AIRBAG	1998	2004
Chrysler	Town & Country	BODY	1996	2004
Chrysler	Town & Country	CCD BUS MONITOR	1992	1999
Chrysler	Town & Country	CLIMATE (HVAC)	2001	2004
Chrysler	Town & Country	ENGINE	1990	2004
Chrysler	Town & Country	FRONT CONTROL	2003	2003
Chrysler	Town & Country	FRONT CONTROL MODULE	2004	2004
Chrysler	Town & Country	INST CLUSTER	1996	2003
Chrysler	Town & Country	INSTRUMENT CLUSTER	2004	2004
Chrysler	Town & Country	SKIM	2001	2004
Chrysler	Town & Country	ABS	1997	2004
Chrysler	Town & Country	CLIMATE	2003	2003
Chrysler	Town & Country	CLIMATE (ATC)	2001	2004
Chrysler	Town & Country	CLIMATE CONTROL	1999	2000
Chrysler	Town & Country	ENGINE-OBDII	1996	2004
Chrysler	Town & Country	TRANSMISSION	1992	2004
Chrysler	Voyager	CLIMATE	2003	2003
Chrysler	Voyager	FRONT CONTROL	2003	2003
Chrysler	Voyager	SKIM	2001	2003
Chrysler	Voyager	ABS	2001	2003
Chrysler	Voyager	AIRBAG	2001	2003
Chrysler	Voyager	BODY	2002	2003
Chrysler	Voyager	CLIMATE (ATC)	2001	2002
Chrysler	Voyager	CLIMATE (HVAC)	2001	2002

Vehicle Applications

Chrysler	Voyager	ENGINE	2001	2003
Chrysler	Voyager	ENGINE-OBDII	2001	2003
Chrysler	Voyager	INST CLUSTER	2001	2003
Chrysler	Voyager	TRANSMISSION	2001	2003
Dodge	600	ENGINE	1984	1988
Dodge	Aries	ENGINE	1984	1989
Dodge	Avenger	ENGINE	1995	2000
Dodge	Avenger	ENGINE-OBDII	1995	2000
Dodge	Avenger	TRANSMISSION	1995	2000
Dodge	Avenger	CCD BUS MONITOR	1995	1999
Dodge	B-150	ABS (4WAL)	1993	1994
Dodge	B-150	ABS (RWAL)	1989	1994
Dodge	B-150	ENGINE	1985	1994
Dodge	B-250	ENGINE	1985	1994
Dodge	B-250	ABS (4WAL)	1993	1994
Dodge	B-250	ABS (RWAL)	1989	1994
Dodge	B-350	ENGINE	1985	1994
Dodge	B-350	ABS (4WAL)	1993	1994
Dodge	B-350	ABS (RWAL)	1989	1994
Dodge	Caravan	AIRBAG	1998	2004
Dodge	Caravan	CCD BUS MONITOR	1992	1999
Dodge	Caravan	CLIMATE (HVAC)	2001	2004
Dodge	Caravan	CLIMATE CONTROL	1999	2000
Dodge	Caravan	ENGINE	1985	2004
Dodge	Caravan	FRONT CONTROL MODULE	2004	2004
Dodge	Caravan	INST CLUSTER	1996	2003
Dodge	Caravan	INSTRUMENT CLUSTER	2004	2004
Dodge	Caravan	SKIM	2001	2004
Dodge	Caravan	ABS	1997	2004
Dodge	Caravan	BODY	1996	2004
Dodge	Caravan	CLIMATE	2003	2003
Dodge	Caravan	CLIMATE (ATC)	2001	2004
Dodge	Caravan	ENGINE-OBDII	1996	2004
Dodge	Caravan	FRONT CONTROL	2003	2003
Dodge	Caravan	TRANSMISSION	1992	2004
Dodge	Colt	ENGINE	1992	1994
Dodge	Colt	ENGINE-OBDII	1996	1996
Dodge	Colt	TRANSMISSION	1992	1994
Dodge	D-50	ABS (RWAL)	1993	1993
Dodge	D-50 4X2	ENGINE	1992	1992
Dodge	D-50 4X4	ENGINE	1992	1992
Dodge	Dakota 4X2	ABS (4WAL)	1993	2004
Dodge	Dakota 4X2	ABS (RWAL)	1987	2004
Dodge	Dakota 4X2	AIRBAG	1999	2002
Dodge	Dakota 4X2	BODY	1997	2002
Dodge	Dakota 4X2	CCD BUS MONITOR	1992	1999
Dodge	Dakota 4X2	CLIMATE CONTROL	2001	2002
Dodge	Dakota 4X2	ENGINE-OBDII	1996	2004
Dodge	Dakota 4X2	CLIMATE (HVAC)	2003	2004
Dodge	Dakota 4X2	ENGINE	1987	2004
Dodge	Dakota 4X2	INST CLUSTER	2001	2004
Dodge	Dakota 4X2	SKIM	2001	2004

Vehicle Applications

Dodge	Dakota 4X2	TRANSFER CASE	2001	2001
Dodge	Dakota 4X2	TRANSMISSION	1996	2004
Dodge	Dakota 4X4	AIRBAG	1999	2002
Dodge	Dakota 4X4	BODY	1997	2002
Dodge	Dakota 4X4	CLIMATE (HVAC)	2003	2004
Dodge	Dakota 4X4	INST CLUSTER	2001	2004
Dodge	Dakota 4X4	SKIM	2001	2004
Dodge	Dakota 4X4	TRANSFER CASE	2001	2004
Dodge	Dakota 4X4	ABS (4WAL)	1993	2004
Dodge	Dakota 4X4	ABS (RWAL)	1987	2004
Dodge	Dakota 4X4	CCD BUS MONITOR	1992	1999
Dodge	Dakota 4X4	CLIMATE CONTROL	2001	2002
Dodge	Dakota 4X4	ENGINE	1987	2004
Dodge	Dakota 4X4	ENGINE-OBDII	1996	2004
Dodge	Dakota 4X4	TRANSMISSION	1996	2004
Dodge	Daytona	TRANSMISSION	1992	1993
Dodge	Daytona	BODY	1993	1993
Dodge	Daytona	CCD BUS MONITOR	1992	1993
Dodge	Daytona	ENGINE	1984	1993
Dodge	Durango 4X2	ABS 3 CHANNEL	2004	2004
Dodge	Durango 4X2	ABS TCS 4 CHANNEL	2004	2004
Dodge	Durango 4X2	CABIN COMP NODE	2004	2004
Dodge	Durango 4X2	CCD BUS MONITOR	1998	1999
Dodge	Durango 4X2	CLIMATE CONTROL	2001	2002
Dodge	Durango 4X2	ENGINE	1998	2004
Dodge	Durango 4X2	ENGINE EARLY	2002	2002
Dodge	Durango 4X2	ENGINE LATE (NGC)	2002	2002
Dodge	Durango 4X2	HVAC	2004	2004
Dodge	Durango 4X2	OCCUPANT CLASS MODULE	2004	2004
Dodge	Durango 4X2	OCCUPANT RESTRAINT CONTRO	2004	2004
Dodge	Durango 4X2	SKIM	2001	2003
Dodge	Durango 4X2	TRANSFER CASE	2001	2001
Dodge	Durango 4X2	ABS (4WAL)	1998	2003
Dodge	Durango 4X2	ABS (RWAL)	1998	2003
Dodge	Durango 4X2	AIRBAG	1998	2003
Dodge	Durango 4X2	BODY	1999	2002
Dodge	Durango 4X2	CLIMATE (HVAC)	2003	2003
Dodge	Durango 4X2	ENGINE-OBDII	1998	2004
Dodge	Durango 4X2	FRONT CONTROL MODULE	2004	2004
Dodge	Durango 4X2	INST CLUSTER	2001	2003
Dodge	Durango 4X2	TRANSMISSION	1998	2004
Dodge	Durango 4X4	ABS (4WAL)	1998	2003
Dodge	Durango 4X4	ABS (RWAL)	1998	2003
Dodge	Durango 4X4	ABS 3 CHANNEL 4WD	2004	2004
Dodge	Durango 4X4	BODY	1999	2002
Dodge	Durango 4X4	CABIN COMP NODE	2004	2004
Dodge	Durango 4X4	CCD BUS MONITOR	1998	1999
Dodge	Durango 4X4	CLIMATE (HVAC)	2003	2003
Dodge	Durango 4X4	FRONT CONTROL MODULE	2004	2004
Dodge	Durango 4X4	HVAC	2004	2004
Dodge	Durango 4X4	INST CLUSTER	2001	2003

Vehicle Applications

Dodge	Durango 4X4	OCCUPANT CLASS MODULE	2004	2004
Dodge	Durango 4X4	SKIM	2001	2003
Dodge	Durango 4X4	TRANSFER CASE	2001	2003
Dodge	Durango 4X4	ABS TCS 4 CHANNEL 4WD	2004	2004
Dodge	Durango 4X4	AIRBAG	1998	2003
Dodge	Durango 4X4	CLIMATE CONTROL	2001	2002
Dodge	Durango 4X4	ENGINE	1998	2004
Dodge	Durango 4X4	ENGINE EARLY	2002	2002
Dodge	Durango 4X4	ENGINE LATE (NGC)	2002	2002
Dodge	Durango 4X4	ENGINE-OBDII	1998	2004
Dodge	Durango 4X4	OCCUPANT RESTRAINT CONTRO	2004	2004
Dodge	Durango 4X4	TRANSMISSION	1998	2004
Dodge	Dynasty	CCD BUS MONITOR	1992	1993
Dodge	Dynasty	ENGINE	1988	1993
Dodge	Dynasty	TRANSMISSION	1992	1993
Dodge	Dynasty	ABS	1989	1990
Dodge	Dynasty	BODY	1992	1993
Dodge	Grand Caravan	CCD BUS MONITOR	1992	1999
Dodge	Grand Caravan	CLIMATE	2003	2003
Dodge	Grand Caravan	CLIMATE (ATC)	2001	2004
Dodge	Grand Caravan	CLIMATE CONTROL	1999	2000
Dodge	Grand Caravan	ENGINE	1985	2004
Dodge	Grand Caravan	FRONT CONTROL	2003	2003
Dodge	Grand Caravan	INST CLUSTER	1996	2003
Dodge	Grand Caravan	INSTRUMENT CLUSTER	2004	2004
Dodge	Grand Caravan	ABS	1997	2004
Dodge	Grand Caravan	AIRBAG	1998	2004
Dodge	Grand Caravan	BODY	1996	2004
Dodge	Grand Caravan	CLIMATE (HVAC)	2001	2004
Dodge	Grand Caravan	ENGINE-OBDII	1996	2004
Dodge	Grand Caravan	FRONT CONTROL MODULE	2004	2004
Dodge	Grand Caravan	SKIM	2001	2004
Dodge	Grand Caravan	TRANSMISSION	1992	2004
Dodge	Incomplete Veh	CCD BUS MONITOR	1992	1994
Dodge	Incomplete Veh	ENGINE	1985	1994
Dodge	Incomplete Veh	TRANSMISSION	1992	1994
Dodge	Intrepid	ABS	1993	2004
Dodge	Intrepid	ENGINE	1993	2004
Dodge	Intrepid	SKIM	1999	2004
Dodge	Intrepid	TRANSMISSION	1993	2004
Dodge	Intrepid	ABS (w/TCS)	1993	1997
Dodge	Intrepid	AIRBAG	2000	2004
Dodge	Intrepid	BODY	1993	2004
Dodge	Intrepid	CCD BUS MONITOR	1993	1997
Dodge	Intrepid	CLIMATE CONTROL	2001	2004
Dodge	Intrepid	ENGINE-OBDII	1996	2004
Dodge	Intrepid	INST CLUSTER	2001	2004
Dodge	Lancer	ENGINE	1985	1989
Dodge	Mini-Van	TRANSMISSION	1992	1994
Dodge	Mini-Van	CCD BUS MONITOR	1992	1994
Dodge	Mini-Van	ENGINE	1985	1994

Vehicle Applications

Dodge	Monaco	ENGINE	1991	1992
Dodge	Neon	CLUSTER CONTROL	2000	2003
Dodge	Neon	INSTRUMENT CLUSTER	2004	2004
Dodge	Neon	TRANSMISSION	2001	2004
Dodge	Neon	ABS	1999	2004
Dodge	Neon	AIRBAG	1999	2004
Dodge	Neon	CCD BUS MONITOR	1996	1999
Dodge	Neon	ENGINE	1995	2004
Dodge	Neon	ENGINE-OBDII	1995	2004
Dodge	Neon	SKIM	2000	2004
Dodge	Omni	ENGINE	1984	1990
Dodge	Power Ram 100	ENGINE	1986	1989
Dodge	Power Ram 150	ENGINE	1985	1993
Dodge	Power Ram 150	CCD BUS MONITOR	1992	1993
Dodge	Power Ram 250	CCD BUS MONITOR	1992	1993
Dodge	Power Ram 250	ENGINE	1985	1993
Dodge	Power Ram 350	CCD BUS MONITOR	1992	1993
Dodge	Power Ram 350	ENGINE	1985	1993
Dodge	Ram 100 4X2	ENGINE	1986	1989
Dodge	Ram 150	ENGINE	1985	1992
Dodge	Ram 150 4X2	CCD BUS MONITOR	1992	1993
Dodge	Ram 150 4X2	ENGINE	1985	1993
Dodge	Ram 1500 4X2	ABS (4WAL)	1994	2004
Dodge	Ram 1500 4X2	ABS (RWAL)	1994	2004
Dodge	Ram 1500 4X2	BODY	1999	2001
Dodge	Ram 1500 4X2	CABIN COMP NODE	2004	2004
Dodge	Ram 1500 4X2	ENGINE-OBDII	1996	2004
Dodge	Ram 1500 4X2	FRONT CONTROL	2002	2003
Dodge	Ram 1500 4X2	FRONT CONTROL MODULE	2004	2004
Dodge	Ram 1500 4X2	SKIM	2003	2004
Dodge	Ram 1500 4X2	TRANSMISSION	1996	2004
Dodge	Ram 1500 4X2	TRANSMISSION (5.7L GAS)	2004	2004
Dodge	Ram 1500 4X2	AIRBAG	1999	2004
Dodge	Ram 1500 4X2	CCD BUS MONITOR	1994	1999
Dodge	Ram 1500 4X2	CLIMATE CONTROL	2002	2004
Dodge	Ram 1500 4X2	ENGINE	1994	2004
Dodge	Ram 1500 4X4	CABIN COMP NODE	2004	2004
Dodge	Ram 1500 4X4	CCD BUS MONITOR	1994	1999
Dodge	Ram 1500 4X4	ENGINE-OBDII	1996	2004
Dodge	Ram 1500 4X4	FRONT CONTROL	2002	2003
Dodge	Ram 1500 4X4	TRANSFER CASE	2002	2004
Dodge	Ram 1500 4X4	ABS (4WAL)	1994	2004
Dodge	Ram 1500 4X4	ABS (RWAL)	1994	2004
Dodge	Ram 1500 4X4	AIRBAG	1999	2004
Dodge	Ram 1500 4X4	BODY	1999	2001
Dodge	Ram 1500 4X4	CLIMATE CONTROL	2002	2004
Dodge	Ram 1500 4X4	ENGINE	1994	2004
Dodge	Ram 1500 4X4	FRONT CONTROL MODULE	2004	2004
Dodge	Ram 1500 4X4	SKIM	2003	2004
Dodge	Ram 1500 4X4	TRANSMISSION	1996	2004
Dodge	Ram 1500 4X4	TRANSMISSION (5.7L GAS)	2004	2004

Vehicle Applications

Dodge	Ram 250	ENGINE	1985	1992
Dodge	Ram 250 4X2	CCD BUS MONITOR	1992	1993
Dodge	Ram 250 4X2	ENGINE	1985	1993
Dodge	Ram 2500 4X2	ABS (RWAL)	1994	2004
Dodge	Ram 2500 4X2	AIRBAG	1999	2004
Dodge	Ram 2500 4X2	CABIN COMP NODE	2004	2004
Dodge	Ram 2500 4X2	CLIMATE CONTROL	2003	2004
Dodge	Ram 2500 4X2	ENGINE-OBDII	1996	2004
Dodge	Ram 2500 4X2	FRONT CONTROL	2003	2003
Dodge	Ram 2500 4X2	TRANSMISSION (5.7L GAS)	2004	2004
Dodge	Ram 2500 4X2	ABS (4WAL)	1994	2004
Dodge	Ram 2500 4X2	BODY	1999	2002
Dodge	Ram 2500 4X2	CCD BUS MONITOR	1994	1999
Dodge	Ram 2500 4X2	ENGINE	1994	2004
Dodge	Ram 2500 4X2	ENGINE CUMMINS	1998	2004
Dodge	Ram 2500 4X2	ENGINE JTEC	1998	2003
Dodge	Ram 2500 4X2	FRONT CONTROL MODULE	2004	2004
Dodge	Ram 2500 4X2	INST CLUSTER	2002	2002
Dodge	Ram 2500 4X2	SKIM	2003	2004
Dodge	Ram 2500 4X2	TRANSMISSION	1996	2003
Dodge	Ram 2500 4X4	AIRBAG	1999	2004
Dodge	Ram 2500 4X4	ENGINE	1994	2004
Dodge	Ram 2500 4X4	ENGINE-OBDII	1996	2004
Dodge	Ram 2500 4X4	FRONT CONTROL MODULE	2004	2004
Dodge	Ram 2500 4X4	TRANSFER CASE	2003	2004
Dodge	Ram 2500 4X4	TRANSMISSION (5.7L GAS)	2004	2004
Dodge	Ram 2500 4X4	ABS (4WAL)	1994	2004
Dodge	Ram 2500 4X4	ABS (RWAL)	1994	2004
Dodge	Ram 2500 4X4	BODY	1999	2002
Dodge	Ram 2500 4X4	CABIN COMP NODE	2004	2004
Dodge	Ram 2500 4X4	CCD BUS MONITOR	1994	1999
Dodge	Ram 2500 4X4	CLIMATE CONTROL	2003	2004
Dodge	Ram 2500 4X4	ENGINE CUMMINS	1998	2004
Dodge	Ram 2500 4X4	ENGINE JTEC	1998	2003
Dodge	Ram 2500 4X4	FRONT CONTROL	2003	2003
Dodge	Ram 2500 4X4	INST CLUSTER	2002	2002
Dodge	Ram 2500 4X4	SKIM	2003	2004
Dodge	Ram 2500 4X4	TRANSMISSION	1996	2003
Dodge	Ram 350	ENGINE	1985	1992
Dodge	Ram 350 4X2	CCD BUS MONITOR	1992	1993
Dodge	Ram 350 4X2	ENGINE	1985	1993
Dodge	Ram 3500 4X2	ABS (RWAL)	1994	2004
Dodge	Ram 3500 4X2	AIRBAG	1999	2004
Dodge	Ram 3500 4X2	BODY	1999	2002
Dodge	Ram 3500 4X2	CABIN COMP NODE	2004	2004
Dodge	Ram 3500 4X2	CLIMATE CONTROL	2003	2004
Dodge	Ram 3500 4X2	ENGINE JTEC	1998	2003
Dodge	Ram 3500 4X2	ENGINE-OBDII	1996	2004
Dodge	Ram 3500 4X2	INST CLUSTER	2002	2002
Dodge	Ram 3500 4X2	TRANSMISSION (5.7L GAS)	2004	2004
Dodge	Ram 3500 4X2	ABS (4WAL)	1994	2004

Vehicle Applications

Dodge	Ram 3500 4X2	CCD BUS MONITOR	1994	1999
Dodge	Ram 3500 4X2	ENGINE	1994	2004
Dodge	Ram 3500 4X2	ENGINE CUMMINS	1998	2004
Dodge	Ram 3500 4X2	FRONT CONTROL	2003	2003
Dodge	Ram 3500 4X2	FRONT CONTROL MODULE	2004	2004
Dodge	Ram 3500 4X2	SKIM	2003	2004
Dodge	Ram 3500 4X2	TRANSMISSION	1996	2003
Dodge	Ram 3500 4X4	ENGINE	1994	2004
Dodge	Ram 3500 4X4	TRANSMISSION (5.7L GAS)	2004	2004
Dodge	Ram 3500 4X4	ABS (4WAL)	1994	2004
Dodge	Ram 3500 4X4	ABS (RWAL)	1994	2004
Dodge	Ram 3500 4X4	AIRBAG	1999	2004
Dodge	Ram 3500 4X4	BODY	1999	2002
Dodge	Ram 3500 4X4	CABIN COMP NODE	2004	2004
Dodge	Ram 3500 4X4	CCD BUS MONITOR	1994	1999
Dodge	Ram 3500 4X4	CLIMATE CONTROL	2003	2004
Dodge	Ram 3500 4X4	ENGINE CUMMINS	1998	2004
Dodge	Ram 3500 4X4	ENGINE JTEC	1998	2003
Dodge	Ram 3500 4X4	ENGINE-OBDII	1996	2004
Dodge	Ram 3500 4X4	FRONT CONTROL	2003	2003
Dodge	Ram 3500 4X4	FRONT CONTROL MODULE	2004	2004
Dodge	Ram 3500 4X4	INST CLUSTER	2002	2002
Dodge	Ram 3500 4X4	SKIM	2003	2004
Dodge	Ram 3500 4X4	TRANSFER CASE	2003	2004
Dodge	Ram 3500 4X4	TRANSMISSION	1996	2003
Dodge	Ram B-250	ABS (4WAL)	1995	1995
Dodge	Ram B-250	ABS (RWAL)	1995	1995
Dodge	Ram B-250	ENGINE	1995	1995
Dodge	Ram B-350	ABS (4WAL)	1995	1995
Dodge	Ram B-350	ABS (RWAL)	1995	1995
Dodge	Ram B-350	ENGINE	1995	1995
Dodge	Ram Mini-Van	ENGINE	1985	1989
Dodge	Ram SRT-10	ABS (4WAL)	2004	2004
Dodge	Ram SRT-10	CABIN COMP NODE	2004	2004
Dodge	Ram SRT-10	FRONT CONTROL MODULE	2004	2004
Dodge	Ram SRT-10	SKIM	2004	2004
Dodge	Ram SRT-10	ABS (RWAL)	2004	2004
Dodge	Ram SRT-10	AIRBAG	2004	2004
Dodge	Ram SRT-10	CLIMATE CONTROL	2004	2004
Dodge	Ram Van 1500	ABS (4WAL)	1995	2003
Dodge	Ram Van 1500	ABS (RWAL)	1995	2003
Dodge	Ram Van 1500	AIRBAG	1999	2003
Dodge	Ram Van 1500	CCD BUS MONITOR	1999	1999
Dodge	Ram Van 1500	ENGINE	1995	2003
Dodge	Ram Van 1500	INST CLUSTER	2002	2003
Dodge	Ram Van 1500	BODY	1999	2002
Dodge	Ram Van 1500	ENGINE-OBDII	1996	2003
Dodge	Ram Van 1500	SKIM	2002	2003
Dodge	Ram Van 1500	TRANSMISSION	1996	2003
Dodge	Ram Van 2500	ABS (4WAL)	1995	2003
Dodge	Ram Van 2500	AIRBAG	1999	2003

Vehicle Applications

Dodge	Ram Van 2500	ENGINE	1995	2003
Dodge	Ram Van 2500	ABS (RWAL)	1995	2003
Dodge	Ram Van 2500	BODY	1999	2002
Dodge	Ram Van 2500	CCD BUS MONITOR	1999	1999
Dodge	Ram Van 2500	ENGINE-OBDII	1996	2003
Dodge	Ram Van 2500	INST CLUSTER	2002	2003
Dodge	Ram Van 2500	SKIM	2002	2003
Dodge	Ram Van 2500	TRANSMISSION	1996	2003
Dodge	Ram Van 3500	ABS (RWAL)	1995	2003
Dodge	Ram Van 3500	BODY	1999	2002
Dodge	Ram Van 3500	ENGINE	1995	2003
Dodge	Ram Van 3500	ABS (4WAL)	1995	2003
Dodge	Ram Van 3500	AIRBAG	1999	2003
Dodge	Ram Van 3500	CCD BUS MONITOR	1999	1999
Dodge	Ram Van 3500	ENGINE-OBDII	1996	2003
Dodge	Ram Van 3500	INST CLUSTER	2002	2003
Dodge	Ram Van 3500	SKIM	2002	2003
Dodge	Ram Van 3500	TRANSMISSION	1996	2003
Dodge	Ram Wagon 1500	BODY	1999	2002
Dodge	Ram Wagon 1500	CCD BUS MONITOR	1999	1999
Dodge	Ram Wagon 1500	ENGINE	1995	2003
Dodge	Ram Wagon 1500	ENGINE-OBDII	1996	2003
Dodge	Ram Wagon 1500	SKIM	2002	2003
Dodge	Ram Wagon 1500	TRANSMISSION	1996	2003
Dodge	Ram Wagon 1500	ABS (4WAL)	1995	2003
Dodge	Ram Wagon 1500	ABS (RWAL)	2001	2003
Dodge	Ram Wagon 1500	AIRBAG	1999	2003
Dodge	Ram Wagon 1500	INST CLUSTER	2002	2003
Dodge	Ram Wagon 2500	ABS (4WAL)	1995	2003
Dodge	Ram Wagon 2500	BODY	1999	2002
Dodge	Ram Wagon 2500	ENGINE	1995	2003
Dodge	Ram Wagon 2500	ENGINE-OBDII	1996	2003
Dodge	Ram Wagon 2500	SKIM	2002	2003
Dodge	Ram Wagon 2500	TRANSMISSION	1996	2003
Dodge	Ram Wagon 2500	ABS (RWAL)	2001	2003
Dodge	Ram Wagon 2500	AIRBAG	1999	2003
Dodge	Ram Wagon 2500	CCD BUS MONITOR	1999	1999
Dodge	Ram Wagon 2500	INST CLUSTER	2002	2003
Dodge	Ram Wagon 3500	ABS (4WAL)	1995	2003
Dodge	Ram Wagon 3500	ABS (RWAL)	2001	2003
Dodge	Ram Wagon 3500	AIRBAG	1999	2003
Dodge	Ram Wagon 3500	BODY	1999	2002
Dodge	Ram Wagon 3500	INST CLUSTER	2002	2003
Dodge	Ram Wagon 3500	CCD BUS MONITOR	1999	1999
Dodge	Ram Wagon 3500	ENGINE	1995	2003
Dodge	Ram Wagon 3500	ENGINE-OBDII	1996	2003
Dodge	Ram Wagon 3500	SKIM	2002	2003
Dodge	Ram Wagon 3500	TRANSMISSION	1996	2003
Dodge	Ramcharger 4X2	ABS (RWAL)	1989	1993
Dodge	Ramcharger 4X2	CCD BUS MONITOR	1992	1993
Dodge	Ramcharger 4X2	ENGINE	1985	1993
Dodge	Ramcharger 4X4	ABS (RWAL)	1989	1993
Dodge	Ramcharger 4X4	CCD BUS MONITOR	1992	1993

Vehicle Applications

Dodge	Ramcharger 4X4	ENGINE	1985	1993
Dodge	Shadow	TRANSMISSION	1993	1994
Dodge	Shadow	CCD BUS MONITOR	1992	1994
Dodge	Shadow	ENGINE	1987	1994
Dodge	Spirit	TRANSMISSION	1992	1995
Dodge	Spirit	CCD BUS MONITOR	1992	1995
Dodge	Spirit	ENGINE	1989	1995
Dodge	Sprinter	ENGINE-OBDII	2004	2004
Dodge	SRT-4	ABS	2003	2004
Dodge	SRT-4	CLUSTER CONTROL	2003	2003
Dodge	SRT-4	INSTRUMENT CLUSTER	2004	2004
Dodge	SRT-4	SKIM	2003	2004
Dodge	SRT-4	TRANSMISSION	2004	2004
Dodge	SRT-4	AIRBAG	2003	2004
Dodge	SRT-4	ENGINE	2003	2004
Dodge	SRT-4	ENGINE-OBDII	2003	2004
Dodge	Stealth	ENGINE	1992	1993
Dodge	Stealth	ENGINE-OBDII	1996	1996
Dodge	Stealth	TRANSMISSION	1992	1993
Dodge	Stratus	BODY	1995	2000
Dodge	Stratus	ENGINE	1995	2000
Dodge	Stratus	ENGINE-OBDII	1995	2000
Dodge	Stratus	ABS	1998	2000
Dodge	Stratus	AIRBAG	1999	2000
Dodge	Stratus	CCD BUS MONITOR	1995	1999
Dodge	Stratus	INST CLUSTER	1995	2000
Dodge	Stratus	TRANSMISSION	1995	2000
Dodge	Stratus Coupe	ENGINE-OBDII	2001	2004
Dodge	Stratus Sedan	ABS	2001	2004
Dodge	Stratus Sedan	BODY	2001	2004
Dodge	Stratus Sedan	ENGINE	2001	2002
Dodge	Stratus Sedan	ENGINE EARLY (SBEC)	2004	2004
Dodge	Stratus Sedan	INST CLUSTER	2001	2002
Dodge	Stratus Sedan	INSTRUMENT CLUSTER	2004	2004
Dodge	Stratus Sedan	SKIM	2001	2004
Dodge	Stratus Sedan	TRANSMISSION	2001	2004
Dodge	Stratus Sedan	AIRBAG	2001	2004
Dodge	Stratus Sedan	ENGINE LATE (NGC)	2004	2004
Dodge	Stratus Sedan	ENGINE-OBDII	2001	2004
Dodge	Viper	ABS	2001	2004
Dodge	Viper	AIRBAG	1999	2004
Dodge	Viper	CCD BUS MONITOR	1993	1999
Dodge	Viper	ENGINE-OBDII	1996	2003
Dodge	Viper	INST CLUSTER	2003	2004
Dodge	Viper	TRANSMISSION	2000	2000
Dodge	Viper	BODY	2003	2004
Dodge	Viper	CLIMATE (HVAC)	2003	2004
Dodge	Viper	ENGINE	1993	2002
Dodge	Vista	ENGINE	1992	1994
Dodge	Vista	TRANSMISSION	1992	1994
Eagle	Premier	TRANSMISSION	1992	1992
Eagle	Premier	ENGINE	1991	1992

Vehicle Applications

Eagle	Summit	ENGINE	1992	1994
Eagle	Summit	ENGINE-OBDII	1996	1996
Eagle	Summit	TRANSMISSION	1992	1994
Eagle	Talon	CCD BUS MONITOR	1995	1998
Eagle	Talon	ENGINE	1992	1998
Eagle	Talon	ENGINE-OBDII	1995	1998
Eagle	Talon	TRANSMISSION	1992	1996
Eagle	Vision	ABS	1993	1997
Eagle	Vision	CCD BUS MONITOR	1993	1997
Eagle	Vision	ENGINE	1993	1997
Eagle	Vision	ENGINE-OBDII	1996	1997
Eagle	Vision	TRANSMISSION	1993	1997
Eagle	Vision	ABS (w/TCS)	1993	1997
Eagle	Vision	BODY	1993	1997
Plymouth	Acclaim	CCD BUS MONITOR	1992	1995
Plymouth	Acclaim	ENGINE	1989	1995
Plymouth	Acclaim	TRANSMISSION	1992	1995
Plymouth	Breeze	ABS	1998	2000
Plymouth	Breeze	BODY	1996	2000
Plymouth	Breeze	CCD BUS MONITOR	1996	1999
Plymouth	Breeze	ENGINE	1996	2000
Plymouth	Breeze	INST CLUSTER	1996	2000
Plymouth	Breeze	TRANSMISSION	1996	2000
Plymouth	Breeze	AIRBAG	1999	2000
Plymouth	Breeze	ENGINE-OBDII	1996	2000
Plymouth	Caravelle	ENGINE	1985	1988
Plymouth	Colt	TRANSMISSION	1992	1994
Plymouth	Colt	ENGINE	1992	1994
Plymouth	Colt	ENGINE-OBDII	1996	1996
Plymouth	Dynasty	TRANSMISSION	1993	1993
Plymouth	Dynasty	BODY	1993	1993
Plymouth	Dynasty	CCD BUS MONITOR	1993	1993
Plymouth	Dynasty	ENGINE	1993	1993
Plymouth	Gran Fury	ENGINE	1985	1985
Plymouth	Grand Voyager	AIRBAG	1998	2000
Plymouth	Grand Voyager	BODY	1996	2000
Plymouth	Grand Voyager	CLIMATE CONTROL	1999	2000
Plymouth	Grand Voyager	ENGINE	1985	2000
Plymouth	Grand Voyager	ENGINE-OBDII	1996	2000
Plymouth	Grand Voyager	ABS	1997	2000
Plymouth	Grand Voyager	CCD BUS MONITOR	1992	1999
Plymouth	Grand Voyager	INST CLUSTER	1996	2000
Plymouth	Grand Voyager	TRANSMISSION	1992	2000
Plymouth	Horizon	ENGINE	1984	1990
Plymouth	Incomplete Veh	CCD BUS MONITOR	1992	1994
Plymouth	Incomplete Veh	ENGINE	1985	1994
Plymouth	Incomplete Veh	TRANSMISSION	1992	1994
Plymouth	Laser	ENGINE	1992	1994
Plymouth	Laser	TRANSMISSION	1992	1994
Plymouth	Mini-Van	CCD BUS MONITOR	1994	1994
Plymouth	Mini-Van	ENGINE	1985	1994
Plymouth	Mini-Van	TRANSMISSION	1994	1994
Plymouth	Neon	CCD BUS MONITOR	1996	1999

Vehicle Applications

Plymouth	Neon	CLUSTER CONTROL	2000	2001
Plymouth	Neon	ENGINE-OBDII	1995	2001
Plymouth	Neon	ABS	1999	2001
Plymouth	Neon	AIRBAG	1999	2001
Plymouth	Neon	ENGINE	1995	2001
Plymouth	Neon	SKIM	2000	2001
Plymouth	Neon	TRANSMISSION	2001	2001
Plymouth	Prowler	AIRBAG	1999	2002
Plymouth	Prowler	BODY	1997	2002
Plymouth	Prowler	ENGINE	1997	2002
Plymouth	Prowler	ENGINE-OBDII	1997	2002
Plymouth	Prowler	CCD BUS MONITOR	1997	1999
Plymouth	Prowler	TRANSMISSION	1999	2002
Plymouth	Reliant	ENGINE	1984	1989
Plymouth	Sundance	CCD BUS MONITOR	1992	1994
Plymouth	Sundance	TRANSMISSION	1993	1994
Plymouth	Sundance	ENGINE	1987	1994
Plymouth	Vista	ENGINE	1992	1994
Plymouth	Vista	TRANSMISSION	1992	1994
Plymouth	Voyager	ABS	1997	2000
Plymouth	Voyager	AIRBAG	1998	2000
Plymouth	Voyager	ENGINE	1985	2000
Plymouth	Voyager	ENGINE-OBDII	1996	2000
Plymouth	Voyager	TRANSMISSION	1992	2000
Plymouth	Voyager	BODY	1996	2000
Plymouth	Voyager	CCD BUS MONITOR	1992	1999
Plymouth	Voyager	CLIMATE CONTROL	1999	2000
Plymouth	Voyager	INST CLUSTER	1996	2000
Ford	Aerostar	ABS (RABS)	1990	1997
Ford	Aerostar	ENGINE	1985	1997
Ford	Aerostar	AIRBAG	1992	1997
Ford	Aspire	ABS	1994	1997
Ford	Aspire	AIRBAG	1994	1997
Ford	Aspire	ENGINE	1994	1995
Ford	Aspire	ENGINE-OBDII	1996	1997
Ford	B600	ENGINE	1991	1994
Ford	B700	ENGINE	1991	1994
Ford	Bronco	ABS	1993	1996
Ford	Bronco	ABS (RABS)	1988	1990
Ford	Bronco	AIRBAG	1992	1996
Ford	Bronco	ENGINE	1984	1996
Ford	Bronco II	ENGINE	1984	1990
Ford	Bronco II	ABS (RABS)	1987	1990
Ford	Club Wagon	ABS	1997	1998
Ford	Club Wagon	ABS (RABS)	1999	1999
Ford	Club Wagon	AIRBAG	1997	1999
Ford	Club Wagon	ALT FUEL	1998	1999
Ford	Club Wagon	ENGINE	1997	1999
Ford	Contour	AIRBAG	1995	2000
Ford	Contour	ALT FUEL	1998	2000
Ford	Contour	ENGINE	1995	2000
Ford	Contour	PASS ANTI-THEFT	1997	1998
Ford	Contour	ABS	1995	2000

Vehicle Applications

Ford	Contour	SECURITY	1999	2000
Ford	Country Squire	ENGINE	1984	1991
Ford	Crown Victoria	CLIMATE CONTROL	1996	2004
Ford	Crown Victoria	MESSAGE CENTER	2003	2004
Ford	Crown Victoria	PASS ANTI-THEFT	1998	2002
Ford	Crown Victoria	ABS	1992	2004
Ford	Crown Victoria	AIRBAG	1992	2004
Ford	Crown Victoria	ALT FUEL	1999	2004
Ford	Crown Victoria	CRUISE	1991	1991
Ford	Crown Victoria	DRIVER DOOR	1996	2004
Ford	Crown Victoria	DRIVER SEAT	1996	1997
Ford	Crown Victoria	ENGINE	1984	2004
Ford	Crown Victoria	LIGHTING CTRL	1996	2004
Ford	Crown Victoria	STEERING	2003	2004
Ford	Crown Victoria	SUSPENSION	1992	2004
Ford	E-Super Duty	ABS	1999	1999
Ford	E-Super Duty	ABS (RABS)	1999	1999
Ford	E-Super Duty	AIRBAG	1998	1999
Ford	E-Super Duty	ALT FUEL	1998	1999
Ford	E-Super Duty	ENGINE	1998	1999
Ford	Econoline	AIRBAG	2001	2004
Ford	Econoline	ENGINE	2001	2004
Ford	Econoline	INST CLUSTER	2004	2004
Ford	Econoline	ABS	2001	2004
Ford	Econoline	ABS (RABS)	2001	2004
Ford	Econoline	ALT FUEL	2001	2004
Ford	Econoline	REMT ANTITHEFT	2004	2004
Ford	Econoline E150	ALT FUEL	1998	2000
Ford	Econoline E150	ABS	1996	2000
Ford	Econoline E150	ABS (RABS)	1987	2000
Ford	Econoline E150	AIRBAG	1992	2000
Ford	Econoline E150	ENGINE	1984	2000
Ford	Econoline E250	ENGINE	1984	2000
Ford	Econoline E250	ABS	1994	2000
Ford	Econoline E250	ABS (RABS)	1987	2000
Ford	Econoline E250	AIRBAG	1993	2000
Ford	Econoline E250	ALT FUEL	1998	2000
Ford	Econoline E350	ABS	1994	2000
Ford	Econoline E350	ABS (RABS)	1987	2000
Ford	Econoline E350	AIRBAG	1993	2000
Ford	Econoline E350	ALT FUEL	1998	2000
Ford	Econoline E350	ENGINE	1984	2000
Ford	Econoline E450	AIRBAG	2000	2000
Ford	Econoline E450	ABS	2000	2000
Ford	Econoline E450	ABS (RABS)	2000	2000
Ford	Econoline E450	ALT FUEL	2000	2000
Ford	Econoline E450	ENGINE	2000	2000
Ford	Escape	4X4 CONTROL	2005	2005
Ford	Escape	AIRBAG	2001	2005
Ford	Escape	ENGINE	2001	2005
Ford	Escape	PARKING AID MOD	2003	2005
Ford	Escape	ABS	2001	2005
Ford	Escape	GEM/CTM	2001	2005

Vehicle Applications

Ford	Escape	INST CLUSTER	2001	2005
Ford	Escort	ENGINE	1984	2003
Ford	Escort	REMT ANTI-THEFT	1997	2003
Ford	Escort	TRANS 1.8L	1993	1995
Ford	Escort	ABS	1994	2003
Ford	Escort	AIRBAG	1994	2003
Ford	Escort	TRANSMISSION	1992	1992
Ford	Excursion	ABS	2000	2004
Ford	Excursion	ABS (RABS)	2001	2004
Ford	Excursion	CLIMATE CONTROL	2002	2004
Ford	Excursion	DRIVER SEAT	2002	2004
Ford	Excursion	ENGINE	2000	2004
Ford	Excursion	GEM/CTM	2000	2004
Ford	Excursion	OVERHEAD TRIP	2000	2004
Ford	Excursion	PASS ANTITHEFT	2004	2004
Ford	Excursion	SECURITY	2002	2004
Ford	Excursion	AIRBAG	2000	2004
Ford	Excursion	HYBRID ELEC IPC	2003	2004
Ford	Excursion	PARKING AID MOD	2001	2004
Ford	Excursion	PASS ANTI-THEFT	2000	2003
Ford	Excursion	TRANSMISSION	2004	2004
Ford	EXP	ENGINE	1984	1989
Ford	Exp Sport Trac	4X4 CONTROL	2001	2004
Ford	Exp Sport Trac	CLIMATE CONTROL	2001	2002
Ford	Exp Sport Trac	ENGINE	2001	2004
Ford	Exp Sport Trac	PARKING AID MOD	2001	2002
Ford	Exp Sport Trac	PASS ANTI-THEFT	2001	2001
Ford	Exp Sport Trac	REMT ANTITHEFT	2004	2004
Ford	Exp Sport Trac	SUSPENSION	2001	2002
Ford	Exp Sport Trac	ABS	2001	2004
Ford	Exp Sport Trac	AIRBAG	2001	2004
Ford	Exp Sport Trac	GEM/CTM	2001	2004
Ford	Exp Sport Trac	INST CLUSTER	2004	2004
Ford	Exp Sport Trac	REMT ANTI-THEFT	2001	2003
Ford	Expedition	4X4 CONTROL	2004	2004
Ford	Expedition	DRIVER CLIMATE	2003	2003
Ford	Expedition	DRIVER SEAT	2001	2004
Ford	Expedition	ENGINE	1997	2004
Ford	Expedition	INST CLUSTER	2003	2004
Ford	Expedition	SECURITY	2003	2004
Ford	Expedition	TIRE PRESSURE	2003	2004
Ford	Expedition	ABS	1997	2004
Ford	Expedition	AIRBAG	1997	2004
Ford	Expedition	CLIMATE CONTROL	1999	2004
Ford	Expedition	DRV CLIM SEAT	2004	2004
Ford	Expedition	GEM/CTM	1997	2002
Ford	Expedition	HYBRID ELEC IPC	1999	2002
Ford	Expedition	LIFTGATE/TRUNK	2003	2004
Ford	Expedition	PARKING AID MOD	2000	2004
Ford	Expedition	PASS ANTI-THEFT	1998	1998
Ford	Expedition	PASS CLIM SEAT	2004	2004
Ford	Expedition	REMT ANTI-THEFT	1998	2002
Ford	Expedition	SUSPENSION	1997	2004

Vehicle Applications

Ford	Explorer	ABS (RABS)	1990	1992
Ford	Explorer	AIRBAG	1992	2004
Ford	Explorer	CLIMATE CONTROL	1996	2004
Ford	Explorer	DRIVER SEAT	1998	2004
Ford	Explorer	ENGINE	1990	2004
Ford	Explorer	PARKING AID MOD	1999	2004
Ford	Explorer	REMT ANTI-THEFT	1995	2001
Ford	Explorer	SUSPENSION	1995	2001
Ford	Explorer	TIRE PRESSURE	2002	2004
Ford	Explorer	4X4 CONTROL	2001	2004
Ford	Explorer	ABS	1993	2004
Ford	Explorer	GEM/CTM	1995	2002
Ford	Explorer	INST CLUSTER	2002	2004
Ford	Explorer	PASS ANTI-THEFT	1998	2001
Ford	Explorer	SECURITY	2002	2004
Ford	Explorer Sport	ABS	2000	2004
Ford	Explorer Sport	AIRBAG	2000	2004
Ford	Explorer Sport	CLIMATE CONTROL	2000	2002
Ford	Explorer Sport	INST CLUSTER	2004	2004
Ford	Explorer Sport	PARKING AID MOD	2000	2002
Ford	Explorer Sport	REMT ANTITHEFT	2004	2004
Ford	Explorer Sport	4X4 CONTROL	2001	2004
Ford	Explorer Sport	DRIVER SEAT	2000	2000
Ford	Explorer Sport	ENGINE	2000	2004
Ford	Explorer Sport	GEM/CTM	2000	2004
Ford	Explorer Sport	PASS ANTI-THEFT	2000	2002
Ford	Explorer Sport	REMT ANTI-THEFT	2000	2003
Ford	Explorer Sport	SUSPENSION	2000	2002
Ford	ExplorerPostal	ABS	2001	2002
Ford	ExplorerPostal	4X4 CONTROL	2001	2002
Ford	ExplorerPostal	AIRBAG	2001	2001
Ford	ExplorerPostal	ENGINE	2001	2002
Ford	F-150	ABS (RABS)	1987	2004
Ford	F-150	DRIVER SEAT	2004	2004
Ford	F-150	PARKING AID MOD	2004	2004
Ford	F-150	REMT ANTI-THEFT	1997	2003
Ford	F-150	4X4 CONTROL	2004	2004
Ford	F-150	ABS	1996	2004
Ford	F-150	AIRBAG	1992	2004
Ford	F-150	ALT FUEL	1998	2003
Ford	F-150	CLIMATE CONTROL	2004	2004
Ford	F-150	ENGINE	1984	2004
Ford	F-150	GEM/CTM	1997	2003
Ford	F-150	HYBRID ELEC IPC	2001	2003
Ford	F-150	SECURITY	2004	2004
Ford	F-150 Heritage	ABS	2004	2004
Ford	F-150 Heritage	ABS (RABS)	2004	2004
Ford	F-150 Heritage	AIRBAG	2004	2004
Ford	F-150 Heritage	HYBRID ELEC IPC	2004	2004
Ford	F-150 Heritage	ALT FUEL	2004	2004
Ford	F-150 Heritage	ENGINE	2004	2004
Ford	F-150 Heritage	GEM/CTM	2004	2004
Ford	F-150 Heritage	REMT ANTITHEFT	2004	2004

Vehicle Applications

Ford	F-150 Reg Cab	ABS	1999	2000
Ford	F-150 Reg Cab	ABS (RABS)	1999	2000
Ford	F-150 Reg Cab	AIRBAG	1999	2000
Ford	F-150 Reg Cab	ALT FUEL	1999	2000
Ford	F-150 Reg Cab	ENGINE	1999	2000
Ford	F-150 Reg Cab	GEM/CTM	1999	2000
Ford	F-150 Reg Cab	REMT ANTI-THEFT	1999	2000
Ford	F-150 Reg Cab	HYBRID ELEC IPC	1999	2000
Ford	F-150 Supr Cab	ABS	1999	2000
Ford	F-150 Supr Cab	AIRBAG	1999	2000
Ford	F-150 Supr Cab	REMT ANTI-THEFT	1999	2000
Ford	F-150 Supr Cab	ABS (RABS)	1999	2000
Ford	F-150 Supr Cab	ALT FUEL	1999	2000
Ford	F-150 Supr Cab	ENGINE	1999	2000
Ford	F-150 Supr Cab	GEM/CTM	1999	2000
Ford	F-150 Supr Cab	HYBRID ELEC IPC	1999	2000
Ford	F-250	ABS	1997	1998
Ford	F-250	ABS (RABS)	1987	1998
Ford	F-250	AIRBAG	1992	1998
Ford	F-250	ALT FUEL	1998	1998
Ford	F-250	REMT ANTI-THEFT	1997	1998
Ford	F-250	ENGINE	1984	1998
Ford	F-250	GEM/CTM	1997	1998
Ford	F-250 Reg Cab	ABS	1999	1999
Ford	F-250 Reg Cab	AIRBAG	1999	1999
Ford	F-250 Reg Cab	ENGINE	1999	1999
Ford	F-250 Reg Cab	HYBRID ELEC IPC	1999	1999
Ford	F-250 Reg Cab	REMT ANTI-THEFT	1999	1999
Ford	F-250 Reg Cab	ABS (RABS)	1999	1999
Ford	F-250 Reg Cab	ALT FUEL	1999	1999
Ford	F-250 Reg Cab	GEM/CTM	1999	1999
Ford	F-250 Supr Cab	ABS	1999	1999
Ford	F-250 Supr Cab	AIRBAG	1999	1999
Ford	F-250 Supr Cab	ALT FUEL	1999	1999
Ford	F-250 Supr Cab	GEM/CTM	1999	1999
Ford	F-250 Supr Cab	REMT ANTI-THEFT	1999	1999
Ford	F-250 Supr Cab	ABS (RABS)	1999	1999
Ford	F-250 Supr Cab	ENGINE	1999	1999
Ford	F-250 Supr Cab	HYBRID ELEC IPC	1999	1999
Ford	F-350	ABS (RABS)	1987	1997
Ford	F-350	AIRBAG	1992	1996
Ford	F-350	ENGINE	1984	1997
Ford	F-450	ABS (RABS)	1988	1994
Ford	F-450	AIRBAG	1992	1994
Ford	F-450	ENGINE	1988	1994
Ford	F-600	ENGINE	1991	1994
Ford	F-700	ENGINE	1991	1994
Ford	F-800	ENGINE	1991	1994
Ford	F-Super Duty	ABS (RABS)	1995	1997
Ford	F-Super Duty	AIRBAG	1995	1996
Ford	F-Super Duty	ENGINE	1995	1997
Ford	Festiva	ENGINE	1988	1993
Ford	Focus	AIRBAG	2000	2004

Vehicle Applications

Ford	Focus	MESSAGE CENTER	2000	2002
Ford	Focus	ABS	2000	2004
Ford	Focus	ENGINE	2000	2004
Ford	Focus	GEM/CTM	2000	2004
Ford	Focus	HYBRID ELEC IPC	2000	2004
Ford	Focus	SECURITY	2000	2002
Ford	Freestar	ABS	2004	2004
Ford	Freestar	CLIMATE CONTROL	2004	2004
Ford	Freestar	CRUISE CONTROL	2004	2004
Ford	Freestar	DRV CLIM SEAT	2004	2004
Ford	Freestar	INST CLUSTER	2004	2004
Ford	Freestar	PARKING AID MOD	2004	2004
Ford	Freestar	PASS CLIM SEAT	2004	2004
Ford	Freestar	AIRBAG	2004	2004
Ford	Freestar	DRIVER SEAT	2004	2004
Ford	Freestar	ENGINE	2004	2004
Ford	Freestar	GEM/CTM	2004	2004
Ford	Freestar	LIFTGATE/TRUNK	2004	2004
Ford	Freestar	MESSAGE CENTER	2004	2004
Ford	Freestar	PWR SLIDE DOOR	2004	2004
Ford	FT-900	ENGINE	1991	1994
Ford	L8000	ENGINE	1995	1997
Ford	L9000	ENGINE	1995	1997
Ford	LTD	ENGINE	1984	1986
Ford	Mustang	HYBRID ELEC IPC	1999	2004
Ford	Mustang	PASS ANTI-THEFT	1996	1998
Ford	Mustang	ABS	1994	2004
Ford	Mustang	AIRBAG	1992	2004
Ford	Mustang	ENGINE	1984	2004
Ford	Mustang	GEM/CTM	1999	2004
Ford	Probe	ENGINE	1989	1997
Ford	Probe	TRANSMISSION	1992	1995
Ford	Probe	ABS	1992	1997
Ford	Probe	AIRBAG	1996	1997
Ford	Ranger	4X4 CONTROL	2001	2004
Ford	Ranger	PASS ANTI-THEFT	1999	2000
Ford	Ranger	REMT ANTI-THEFT	1996	2003
Ford	Ranger	ABS	1996	2004
Ford	Ranger	ABS (RABS)	1989	2004
Ford	Ranger	AIRBAG	1992	2004
Ford	Ranger	ENGINE	1984	2004
Ford	Ranger	GEM/CTM	1996	2004
Ford	Ranger	INST CLUSTER	2004	2004
Ford	Super Club	ABS	1999	1999
Ford	Super Club	ABS (RABS)	1999	1999
Ford	Super Club	AIRBAG	1999	1999
Ford	Super Club	ALT FUEL	1999	1999
Ford	Super Club	ENGINE	1999	1999
Ford	Super Van	AIRBAG	1999	1999
Ford	Super Van	ALT FUEL	1999	1999
Ford	Super Van	ENGINE	1999	1999
Ford	Super Van	ABS	1999	1999
Ford	Super Van	ABS (RABS)	1999	1999

Vehicle Applications

Ford	SuperDuty	ABS	1999	2004
Ford	SuperDuty	AIRBAG	1999	2004
Ford	SuperDuty	ENGINE	1999	2004
Ford	SuperDuty	HYBRID ELEC IPC	2003	2004
Ford	SuperDuty	OVERHEAD TRIP	2000	2004
Ford	SuperDuty	PASS ANTI-THEFT	2000	2003
Ford	SuperDuty	TRANSMISSION	2003	2004
Ford	SuperDuty	ABS (RABS)	1999	2004
Ford	SuperDuty	GEM/CTM	1999	2004
Ford	SuperDuty	PARKING AID MOD	2001	2004
Ford	SuperDuty	SECURITY	2004	2004
Ford	Taurus	CRUISE CONTROL	1992	1994
Ford	Taurus	ENGINE	1986	2004
Ford	Taurus	GEM/CTM	1996	2004
Ford	Taurus	INST CLUSTER	2004	2004
Ford	Taurus	PASS ANTI-THEFT	1996	1999
Ford	Taurus	ABS	1990	2004
Ford	Taurus	AIRBAG	1992	2004
Ford	Taurus	CLIMATE CONTROL	1996	2004
Ford	Taurus	CRUISE	1991	1991
Ford	Taurus	REMT ANTI-THEFT	1996	1999
Ford	Taurus	SUSPENSION	1997	1997
Ford	Tempo	ABS	1993	1994
Ford	Tempo	ENGINE	1984	1994
Ford	Thunderbird	ABS	1987	2004
Ford	Thunderbird	AIRBAG	1996	2004
Ford	Thunderbird	AUDIO CONTROL	2002	2004
Ford	Thunderbird	CELL PHONE	2002	2004
Ford	Thunderbird	CLIMATE CONTROL	2002	2004
Ford	Thunderbird	CRUISE	1989	1989
Ford	Thunderbird	DRIVER DOOR	2002	2004
Ford	Thunderbird	REAR ELEC	2002	2004
Ford	Thunderbird	SUSPENSION	1992	1995
Ford	Thunderbird	ENGINE	1984	2004
Ford	Thunderbird	FRONT ELEC	2002	2004
Ford	Thunderbird	INST CLUSTER	2002	2004
Ford	Windstar	AIRBAG	1995	2003
Ford	Windstar	MESSAGE CENTER	1999	2003
Ford	Windstar	REAR ELEC	1999	2003
Ford	Windstar	ABS	1995	2003
Ford	Windstar	CRUISE CONTROL	1999	2003
Ford	Windstar	DRIVER DOOR	1999	2003
Ford	Windstar	DRIVER SEAT	2001	2003
Ford	Windstar	ENGINE	1995	2003
Ford	Windstar	FRONT ELEC	2001	2003
Ford	Windstar	GEM/CTM	1995	2000
Ford	Windstar	INST CLUSTER	1999	2003
Ford	Windstar	PARKING AID MOD	1999	2003
Ford	Windstar	PWR SLIDE DOOR	1999	2003
Ford	Windstar	REMT ANTI-THEFT	1998	1998
Ford	ZX2	ABS	2001	2003
Ford	ZX2	AIRBAG	2001	2003
Ford	ZX2	ENGINE	2001	2003

Vehicle Applications

Ford	ZX2	REMT ANTI-THEFT	2001	2003
Lincoln	Aviator	DRIVER CLIMATE	2003	2003
Lincoln	Aviator	DRIVER SEAT	2003	2004
Lincoln	Aviator	ENGINE	2003	2004
Lincoln	Aviator	NAVIGATION	2003	2004
Lincoln	Aviator	PARKING AID MOD	2003	2004
Lincoln	Aviator	PASS CLIM SEAT	2004	2004
Lincoln	Aviator	PASS CLIMATE	2003	2003
Lincoln	Aviator	SECURITY	2003	2004
Lincoln	Aviator	4X4 CONTROL	2003	2004
Lincoln	Aviator	ABS	2003	2004
Lincoln	Aviator	AIRBAG	2003	2004
Lincoln	Aviator	CLIMATE CONTROL	2003	2004
Lincoln	Aviator	DRV CLIM SEAT	2004	2004
Lincoln	Aviator	INST CLUSTER	2003	2004
Lincoln	Aviator	REM EMER CELL	2003	2004
Lincoln	Aviator	STEERING	2003	2004
Lincoln	Aviator	SUSPENSION	2003	2004
Lincoln	Aviator	TIRE PRESSURE	2003	2004
Lincoln	Blackwood	CLIMATE CONTROL	2002	2003
Lincoln	Blackwood	DRIVER SEAT	2002	2003
Lincoln	Blackwood	ENGINE	2002	2003
Lincoln	Blackwood	HYBRID ELEC IPC	2002	2003
Lincoln	Blackwood	REMT ANTI-THEFT	2002	2003
Lincoln	Blackwood	ABS	2002	2003
Lincoln	Blackwood	AIRBAG	2002	2003
Lincoln	Blackwood	GEM/CTM	2002	2003
Lincoln	Blackwood	LIFTGATE/TRUNK	2002	2003
Lincoln	Blackwood	PARKING AID MOD	2002	2003
Lincoln	Blackwood	SUSPENSION	2002	2003
Lincoln	Continental	ABS	1986	2002
Lincoln	Continental	CLIMATE CONTROL	1995	2002
Lincoln	Continental	CRUISE	1988	1990
Lincoln	Continental	CRUISE CONTROL	1998	2002
Lincoln	Continental	DRIVER DOOR	1995	2002
Lincoln	Continental	ENGINE	1984	2002
Lincoln	Continental	LIGHTING CTRL	1995	2002
Lincoln	Continental	SUSPENSION	1992	2002
Lincoln	Continental	AIRBAG	1992	2002
Lincoln	Continental	AUDIO CONTROL	1996	2002
Lincoln	Continental	CELL PHONE	1996	2002
Lincoln	Continental	DRIVER SEAT	1995	2002
Lincoln	Continental	REM EMER CELL	1996	2002
Lincoln	Continental	VIRTUAL IMAGE	1996	2002
Lincoln	LS	AUDIO CONTROL	2000	2004
Lincoln	LS	CELL PHONE	2000	2004
Lincoln	LS	CLIMATE CONTROL	2000	2004
Lincoln	LS	ELEC PARK BRAKE	2004	2004
Lincoln	LS	INST CLUSTER	2000	2004
Lincoln	LS	MESSAGE CENTER	2000	2004
Lincoln	LS	NAVIGATION	2003	2004
Lincoln	LS	PARKING AID MOD	2003	2004
Lincoln	LS	REAR ELEC	2000	2004

Vehicle Applications

Lincoln	LS	REM EMER CELL	2000	2004
Lincoln	LS	ABS	2000	2004
Lincoln	LS	AIRBAG	2000	2004
Lincoln	LS	DRIVER CLIMATE	2003	2003
Lincoln	LS	DRIVER DOOR	2000	2004
Lincoln	LS	DRIVER SEAT	2000	2004
Lincoln	LS	DRV CLIM SEAT	2004	2004
Lincoln	LS	ENGINE	2000	2004
Lincoln	LS	GEM/CTM	2000	2004
Lincoln	LS	PASS CLIM SEAT	2004	2004
Lincoln	LS	PASS CLIMATE	2003	2003
Lincoln	Mark VII	ENGINE	1984	1992
Lincoln	Mark VII	ABS	1987	1992
Lincoln	Mark VII	CRUISE	1989	1992
Lincoln	Mark VIII	ABS	1993	1998
Lincoln	Mark VIII	AIRBAG	1996	1998
Lincoln	Mark VIII	CELL PHONE	1997	1998
Lincoln	Mark VIII	COLUMN/LIGHTING	1997	1998
Lincoln	Mark VIII	DRIVER SEAT	1997	1998
Lincoln	Mark VIII	HYBRID ELEC IPC	1997	1997
Lincoln	Mark VIII	MESSAGE CENTER	1998	1998
Lincoln	Mark VIII	SUSPENSION	1993	1998
Lincoln	Mark VIII	CLIMATE CONTROL	1997	1998
Lincoln	Mark VIII	DRIVER DOOR	1997	1998
Lincoln	Mark VIII	ENGINE	1993	1998
Lincoln	Navigator	4X4 CONTROL	2004	2004
Lincoln	Navigator	AIRBAG	1998	2004
Lincoln	Navigator	DRIVER SEAT	1999	2004
Lincoln	Navigator	DRV CLIM SEAT	2004	2004
Lincoln	Navigator	ENGINE	1998	2004
Lincoln	Navigator	GEM/CTM	1998	2002
Lincoln	Navigator	HYBRID ELEC IPC	1999	2002
Lincoln	Navigator	INST CLUSTER	2003	2004
Lincoln	Navigator	NAVIGATION	2003	2004
Lincoln	Navigator	REMT ANTI-THEFT	1998	2002
Lincoln	Navigator	SECURITY	2003	2004
Lincoln	Navigator	SUSPENSION	1998	2004
Lincoln	Navigator	ABS	1998	2004
Lincoln	Navigator	CLIMATE CONTROL	1999	2004
Lincoln	Navigator	DRIVER CLIMATE	2003	2003
Lincoln	Navigator	LIFTGATE/TRUNK	2003	2004
Lincoln	Navigator	PARKING AID MOD	2000	2004
Lincoln	Navigator	PASS ANTI-THEFT	1998	1998
Lincoln	Navigator	PASS CLIM SEAT	2004	2004
Lincoln	Navigator	PASS CLIMATE	2003	2003
Lincoln	Navigator	REM EMER CELL	2003	2004
Lincoln	Navigator	TIRE PRESSURE	2003	2004
Lincoln	Town Car	ABS	1990	2004
Lincoln	Town Car	AIRBAG	1992	2004
Lincoln	Town Car	CLIMATE CONTROL	1996	2004
Lincoln	Town Car	DRIVER SEAT	1996	2004
Lincoln	Town Car	ENGINE	1984	2004
Lincoln	Town Car	HYBRID ELEC IPC	1998	2004

Vehicle Applications

Lincoln	Town Car	LIFTGATE/TRUNK	2003	2004
Lincoln	Town Car	NAVIGATION	2003	2004
Lincoln	Town Car	PARKING AID MOD	2003	2004
Lincoln	Town Car	REM EMER CELL	2003	2004
Lincoln	Town Car	AUDIO CONTROL	1998	2004
Lincoln	Town Car	CELL PHONE	2000	2004
Lincoln	Town Car	CRUISE	1989	1989
Lincoln	Town Car	CRUISE CONTROL	1998	2004
Lincoln	Town Car	DRIVER DOOR	1996	2004
Lincoln	Town Car	LIGHTING CTRL	1996	2004
Lincoln	Town Car	OVERHEAD TRIP	2003	2004
Lincoln	Town Car	SUSPENSION	1992	2004
Mercury	Capri	ENGINE	1984	1994
Mercury	Capri	TRANSMISSION	1992	1994
Mercury	Capri	AIRBAG	1992	1994
Mercury	Colony Park	ENGINE	1984	1991
Mercury	Cougar	AIRBAG	1993	2002
Mercury	Cougar	ENGINE	1984	2002
Mercury	Cougar	HYBRID ELEC IPC	1999	2002
Mercury	Cougar	SUSPENSION	1992	1995
Mercury	Cougar	ABS	1988	2002
Mercury	Cougar	CRUISE	1989	1989
Mercury	Cougar	SECURITY	1999	2002
Mercury	Grand Marquis	ABS	1992	2004
Mercury	Grand Marquis	AIRBAG	1992	2004
Mercury	Grand Marquis	ALT FUEL	1999	2000
Mercury	Grand Marquis	CLIMATE CONTROL	1996	2004
Mercury	Grand Marquis	CRUISE	1991	1991
Mercury	Grand Marquis	DRIVER DOOR	1996	2004
Mercury	Grand Marquis	ENGINE	1984	2004
Mercury	Grand Marquis	MESSAGE CENTER	2003	2004
Mercury	Grand Marquis	DRIVER SEAT	1996	1996
Mercury	Grand Marquis	LIGHTING CTRL	1996	2004
Mercury	Grand Marquis	PASS ANTI-THEFT	1998	2002
Mercury	Grand Marquis	STEERING	2003	2004
Mercury	Grand Marquis	SUSPENSION	1992	2004
Mercury	Lynx	ENGINE	1984	1987
Mercury	Marauder	CLIMATE CONTROL	2003	2004
Mercury	Marauder	DRIVER DOOR	2003	2004
Mercury	Marauder	ENGINE	2003	2004
Mercury	Marauder	LIGHTING CTRL	2003	2004
Mercury	Marauder	MESSAGE CENTER	2003	2004
Mercury	Marauder	STEERING	2003	2004
Mercury	Marauder	SUSPENSION	2003	2004
Mercury	Marauder	ABS	2003	2004
Mercury	Marauder	AIRBAG	2003	2004
Mercury	Marquis	ENGINE	1984	1986
Mercury	Monterey	CLIMATE CONTROL	2004	2004
Mercury	Monterey	CRUISE CONTROL	2004	2004
Mercury	Monterey	GEM/CTM	2004	2004
Mercury	Monterey	INST CLUSTER	2004	2004
Mercury	Monterey	LIFTGATE/TRUNK	2004	2004
Mercury	Monterey	PARKING AID MOD	2004	2004

Vehicle Applications

Mercury	Monterey	PASS CLIM SEAT	2004	2004
Mercury	Monterey	PWR SLIDE DOOR	2004	2004
Mercury	Monterey	ABS	2004	2004
Mercury	Monterey	AIRBAG	2004	2004
Mercury	Monterey	DRIVER SEAT	2004	2004
Mercury	Monterey	DRV CLIM SEAT	2004	2004
Mercury	Monterey	ENGINE	2004	2004
Mercury	Monterey	MESSAGE CENTER	2004	2004
Mercury	Mountaineer	ABS	1997	2004
Mercury	Mountaineer	DRIVER SEAT	1998	2002
Mercury	Mountaineer	ENGINE	1997	2004
Mercury	Mountaineer	INST CLUSTER	2002	2004
Mercury	Mountaineer	PASS ANTI-THEFT	1998	2002
Mercury	Mountaineer	4X4 CONTROL	2001	2004
Mercury	Mountaineer	AIRBAG	1997	2004
Mercury	Mountaineer	CLIMATE CONTROL	1998	2004
Mercury	Mountaineer	GEM/CTM	1997	2002
Mercury	Mountaineer	PARKING AID MOD	1999	2004
Mercury	Mountaineer	REMT ANTI-THEFT	1997	2001
Mercury	Mountaineer	SECURITY	2002	2003
Mercury	Mountaineer	SUSPENSION	1998	2001
Mercury	Mountaineer	TIRE PRESSURE	2002	2004
Mercury	Mystique	AIRBAG	1995	2000
Mercury	Mystique	ABS	1995	2000
Mercury	Mystique	ENGINE	1995	2000
Mercury	Mystique	PASS ANTI-THEFT	1998	1999
Mercury	Mystique	SECURITY	2000	2000
Mercury	Sable	ABS	1990	2004
Mercury	Sable	AIRBAG	1992	2004
Mercury	Sable	CLIMATE CONTROL	1996	2004
Mercury	Sable	ENGINE	1986	2004
Mercury	Sable	INST CLUSTER	2004	2004
Mercury	Sable	PASS ANTI-THEFT	1996	1999
Mercury	Sable	SUSPENSION	1997	1997
Mercury	Sable	GEM/CTM	1996	2004
Mercury	Sable	REMT ANTI-THEFT	1996	1999
Mercury	Topaz	ENGINE	1984	1994
Mercury	Topaz	ABS	1993	1994
Mercury	Tracer	ABS	1994	1999
Mercury	Tracer	REMT ANTI-THEFT	1997	1999
Mercury	Tracer	AIRBAG	1995	1999
Mercury	Tracer	ENGINE	1988	1999
Mercury	Tracer	TRANS 1.8L	1993	1995
Mercury	Tracer	TRANSMISSION	1992	1992
Mercury	Villager	ENGINE	1993	2002
Mercury	Villager	TRANSMISSION	1993	2002
Mercury	Villager	ABS	1993	2002
Mercury	Villager	AIRBAG	1994	2002
Merkur	Merkur	ENGINE	1985	1989
GMC	Jimmy,4WD	ABS (4WAL)	1995	1995
GMC	Jimmy,4WD	PCM	1995	1995
GMC	Jimmy,4WD	AIRBAG	1995	1995
GMC	K-Blazer,2WD	ENGINE	1989	1991

Vehicle Applications

GMC	K-Blazer,2WD	ABS (RWAL)	1990	1991
GMC	K-Blazer,4WD	ABS (RWAL)	1990	1991
GMC	K-Blazer,4WD	ENGINE	1989	1991
GMC	K15,4WD	ENGINE	1982	1986
GMC	K1500	ABS (4WAL)	1999	1999
GMC	K1500	PCM	1999	1999
GMC	K1500	AIRBAG	1999	1999
GMC	K1500	TRANSFER CASE	1999	1999
GMC	K1500 4WD	AIRBAG	1996	1998
GMC	K1500 4WD	ABS (4WAL)	1996	1998
GMC	K1500 4WD	PCM	1996	1998
GMC	K1500 4WD	TRANSFER CASE	1998	1998
GMC	K1500,4WD	AIRBAG	1994	1995
GMC	K1500,4WD	PCM	1993	1995
GMC	K1500,4WD	ABS (4WAL)	1991	1995
GMC	K1500,4WD	ENGINE	1988	1992
GMC	K1500,4WD	TRANSMISSION	1993	1995
GMC	K1500,4WD	ABS (RWAL)	1988	1994
GMC	K25,4WD	ENGINE	1984	1986
GMC	K2500 4WD	PCM	1996	1997
GMC	K2500 4WD	ABS (4WAL)	1996	1997
GMC	K2500 4WD	AIRBAG	1996	1997
GMC	K2500 O8600	ABS (4WAL)	1998	1999
GMC	K2500 O8600	PCM	1998	2000
GMC	K2500 O8600	INST PANEL MOD	2000	2000
GMC	K2500 O8600	RTD / EVO	2000	2000
GMC	K2500 O8600	ABS	2000	2000
GMC	K2500 O8600	AIRBAG	1998	2000
GMC	K2500 O8600	ELECT VARI ORFIC	2000	2000
GMC	K2500 O8600	TRANSFER CASE	1998	2000
GMC	K2500 U8600	INST PANEL MOD	2000	2000
GMC	K2500 U8600	AIRBAG	1998	2000
GMC	K2500 U8600	TRANSFER CASE	1998	2000
GMC	K2500 U8600	RTD / EVO	2000	2000
GMC	K2500 U8600	ABS	2000	2000
GMC	K2500 U8600	PCM	1998	2000
GMC	K2500 U8600	ELECT VARI ORFIC	2000	2000
GMC	K2500 U8600	ABS (4WAL)	1998	1999
GMC	K2500,4WD	ENGINE	1988	1993
GMC	K2500,4WD	ABS (RWAL)	1988	1994
GMC	K2500,4WD	ABS (4WAL)	1991	1995
GMC	K2500,4WD	PCM	1993	1995
GMC	K2500,4WD	AIRBAG	1994	1995
GMC	K2500,4WD	TRANSMISSION	1992	1995
GMC	K35,4WD	ENGINE	1984	1986
GMC	K3500	RTD / EVO	2000	2000
GMC	K3500	TRANSFER CASE	1999	2000
GMC	K3500	AIRBAG	1999	2000
GMC	K3500	ABS (4WAL)	1999	1999
GMC	K3500	PCM	1999	2000
GMC	K3500	ABS	2000	2000
GMC	K3500	ELECT VARI ORFIC	2000	2000
GMC	K3500 4WD	TRANSFER CASE	1998	1998

Vehicle Applications

GMC	K3500 4WD	PCM	1996	1998
GMC	K3500 4WD	ABS (4WAL)	1996	1998
GMC	K3500 4WD	AIRBAG	1996	1998
GMC	K3500,4WD	TRANSMISSION	1992	1995
GMC	K3500,4WD	ENGINE	1988	1993
GMC	K3500,4WD	AIRBAG	1994	1995
GMC	K3500,4WD	ABS (RWAL)	1988	1994
GMC	K3500,4WD	ABS (4WAL)	1991	1995
GMC	K3500,4WD	PCM	1993	1995
GMC	MD B7-Chassis	ABS HYDRAULIC 4WAL 4 SNSR	2004	2004
GMC	MD B7-Chassis	ALLISON TRANSMISSION	2004	2004
GMC	MD B7-Chassis	ENGINE/PCM	2004	2004
GMC	MD C-Series	ALLISON TRANSMISSION	2004	2004
GMC	MD C-Series	ABS HYDRAULIC 4WAL 4 SNSR	2004	2004
GMC	MD C-Series	AIRBAG	2004	2004
GMC	MD C-Series	ENGINE/PCM	2004	2004
GMC	MD T-Series	ABS HYDRAULIC 4WAL 4 SNSR	2004	2004
GMC	MD T-Series	ALLISON TRANSMISSION	2004	2004
GMC	MD T-Series	ENGINE/PCM	2004	2004
GMC	MD T-Series	AIRBAG	2004	2004
GMC	MD W4 Series	ALLISON TRANSMISSION	2004	2004
GMC	MD W4 Series	ABS	2004	2004
GMC	MD W4 Series	ENGINE/PCM	2004	2004
GMC	MD WT5500	ALLISON TRANSMISSION	2004	2004
GMC	MD WT5500	ENGINE/PCM	2004	2004
GMC	Medium Duty	PCM	1999	2003
GMC	Medium Duty	ENGINE/PCM	1996	2004
GMC	Medium Duty	TRANSMISSION	2003	2004
GMC	P/G Comm	TRANSMISSION	1995	1995
GMC	P/G Comm	PCM	1995	1995
GMC	P15 Comm.	ENGINE	1985	1986
GMC	P25 Comm.	ENGINE	1985	1989
GMC	P35 Comm	TRANSMISSION	1995	1995
GMC	P35 Comm	PCM	1995	2000
GMC	P35 Comm.	TRANSMISSION	1992	1994
GMC	P35 Comm.	ENGINE	1985	1992
GMC	P35 Comm.	PCM	1993	1994
GMC	R1500,2WD	ABS (RWAL)	1990	1991
GMC	R1500,2WD	ENGINE	1987	1991
GMC	R2500,2WD	ABS (RWAL)	1990	1991
GMC	R2500,2WD	ENGINE	1987	1991
GMC	R3500,2WD	ABS (RWAL)	1990	1991
GMC	R3500,2WD	ENGINE	1987	1991
GMC	S15,2WD	TRANSMISSION	1993	1994
GMC	S15,2WD	ABS (RWAL)	1989	1994
GMC	S15,2WD	AIRBAG	1994	1994
GMC	S15,2WD	ABS (4WAL)	1991	1994
GMC	S15,2WD	ENGINE	1982	1992
GMC	S15,2WD	PCM	1993	1994

Vehicle Applications

GMC	S15,4WD	AIRBAG	1994	1994
GMC	S15,4WD	ABS (RWAL)	1989	1994
GMC	S15,4WD	ABS (4WAL)	1991	1994
GMC	S15,4WD	ENGINE	1983	1992
GMC	S15,4WD	PCM	1993	1994
GMC	S15,4WD	TRANSMISSION	1993	1994
GMC	Safari	BODY CONTROL	2004	2004
GMC	Safari	ABS	2004	2004
GMC	Safari	PCM	2004	2004
GMC	Safari	TRANSFER CASE	2004	2004
GMC	Safari	AIRBAG	2004	2004
GMC	Safari AWD	BODY CONTROL	2002	2002
GMC	Safari AWD	ABS (4WAL)	1999	1999
GMC	Safari AWD	AIRBAG	1999	2003
GMC	Safari AWD	TRANSFER CASE	1999	2003
GMC	Safari AWD	PCM	1999	2003
GMC	Safari AWD	INST PANEL CLUS	2000	2002
GMC	Safari AWD	ABS	2000	2003
GMC	Safari RWD	PCM	1999	2003
GMC	Safari RWD	AIRBAG	1999	2003
GMC	Safari RWD	ABS	2000	2003
GMC	Safari RWD	ABS (4WAL)	1999	1999
GMC	Safari RWD	INST PANEL CLUS	2000	2002
GMC	Safari RWD	BODY CONTROL	2002	2002
GMC	Safari Van	PCM	1993	1998
GMC	Safari Van	ABS (RWAL)	1989	1994
GMC	Safari Van	TRANSMISSION	1993	1995
GMC	Safari Van	AIRBAG	1994	1998
GMC	Safari Van	ABS (4WAL)	1990	1998
GMC	Safari Van	ENGINE	1985	1992
GMC	Savana	PCM	1999	2004
GMC	Savana	ABS (4WAL)	1999	2002
GMC	Savana	ABS	2003	2004
GMC	Savana	INST PANEL CLUS	2004	2004
GMC	Savana	BODY CONTROL	2003	2004
GMC	Savana	VSES	2004	2004
GMC	Savana	AIRBAG	1999	2004
GMC	Savana	ALTERNATE FUEL	2003	2003
GMC	Savana CNG	VSES	2004	2004
GMC	Savana CNG	INST PANEL CLUS	2004	2004
GMC	Savana CNG	AIRBAG	2004	2004
GMC	Savana CNG	ABS	2004	2004
GMC	Savana CNG	PCM	2004	2004
GMC	Savana CNG	BODY CONTROL	2004	2004
GMC	Savana Pro	VSES	2004	2004
GMC	Savana Pro	BODY CONTROL	2004	2004
GMC	Savana Pro	INST PANEL CLUS	2004	2004
GMC	Savana Pro	PCM	2004	2004
GMC	Savana Pro	AIRBAG	2004	2004
GMC	Savana Pro	ABS	2004	2004
GMC	Sier. O8600GVW	PCM	1999	1999
GMC	Sier. O8600GVW	ABS (4WAL)	1999	1999
GMC	Sier. O8600GVW	AIRBAG	1999	1999

Vehicle Applications

GMC	Sier. U8600GVW	PCM	1999	1999
GMC	Sier. U8600GVW	TRANSFER CASE	1999	1999
GMC	Sier. U8600GVW	AIRBAG	1999	1999
GMC	Sier. U8600GVW	ABS (4WAL)	1999	1999
GMC	Sierra	ELECT SUSP CNTRL	2003	2004
GMC	Sierra	ELECT VARI ORFIC	2002	2002
GMC	Sierra	VSES	2002	2004
GMC	Sierra	RTD / EVO	2002	2002
GMC	Sierra	ABS	2002	2004
GMC	Sierra	REAR AUX CLIM MOD	2004	2004
GMC	Sierra	BODY CONTROL	2002	2004
GMC	Sierra	HEAT VENT A/C	2002	2003
GMC	Sierra	PCM	2002	2004
GMC	Sierra	HVAC	2004	2004
GMC	Sierra	INST PANEL CLUS	2002	2004
GMC	Sierra	TRANSMISSION	2002	2004
GMC	Sierra	VEHICLE THEFT DET	2004	2004
GMC	Sierra	REAR AUX CLIMATE	2003	2003
GMC	Sierra	DRIVER INFO CTR	2002	2002
GMC	Sierra	REAR HVAC	2003	2004
GMC	Sierra	ALLISON TRANSMISSION	2004	2004
GMC	Sierra	TRACTION ASSIST	2002	2004
GMC	Sierra	AIRBAG	2002	2004
GMC	Sierra	REAR WHEEL STEER	2002	2004
GMC	Sierra	TRANSFER CASE	2002	2004
GMC	Sierra	TIRE PRESSURE MONITOR	2004	2004
GMC	Sierra 2500 HD	DRIVER INFO CTR	2002	2002
GMC	Sierra 2500 HD	ELECT VARI ORFIC	2002	2002
GMC	Sierra 2500 HD	BODY CONTROL	2002	2002
GMC	Sierra 2500 HD	TRACTION ASSIST	2001	2003
GMC	Sierra 2500 HD	PCM	2001	2003
GMC	Sierra 2500 HD	TRANSMISSION	2001	2003
GMC	Sierra 2500 HD	ABS	2001	2003
GMC	Sierra 2500 HD	REAR HVAC	2003	2003
GMC	Sierra 2500 HD	ELECT SUSP CNTRL	2003	2003
GMC	Sierra 2500 HD	RTD / EVO	2001	2002
GMC	Sierra 2500 HD	HEAT VENT A/C	2002	2003
GMC	Sierra 2500 HD	TRANSFER CASE	2001	2003
GMC	Sierra 2500 HD	VSES	2002	2003
GMC	Sierra 2500 HD	REAR WHEEL STEER	2002	2003
GMC	Sierra 2500 HD	AIRBAG	2001	2003
GMC	Sierra 2500 HD	REAR AUX CLIMATE	2003	2003
GMC	Sierra 2500 HD	INST PANEL CLUS	2001	2002
GMC	Sierra 2WD	TRANSMISSION	2001	2001
GMC	Sierra 2WD	ABS	2000	2001
GMC	Sierra 2WD	RTD / EVO	2000	2001
GMC	Sierra 2WD	PCM	2000	2001
GMC	Sierra 2WD	INST PANEL CLUS	2001	2001
GMC	Sierra 2WD	AIRBAG	2000	2001
GMC	Sierra 2WD	TRACTION ASSIST	2000	2001
GMC	Sierra 3500 HD	AIRBAG	2001	2002
GMC	Sierra 3500 HD	REAR WHEEL STEER	2002	2003

Vehicle Applications

GMC	Sierra 3500 HD	DRIVER INFO CTR	2002	2002
GMC	Sierra 3500 HD	VSES	2003	2003
GMC	Sierra 3500 HD	BODY CONTROL	2002	2002
GMC	Sierra 3500 HD	HEAT VENT A/C	2002	2002
GMC	Sierra 3500 HD	TRANSMISSION	2003	2003
GMC	Sierra 3500 HD	ELECT SUSP CNTRL	2003	2003
GMC	Sierra 3500 HD	INST PANEL CLUS	2001	2002
GMC	Sierra 3500 HD	PCM	2001	2003
GMC	Sierra 3500 HD	TRACTION ASSIST	2001	2003
GMC	Sierra 3500 HD	RTD / EVO	2001	2002
GMC	Sierra 3500 HD	ABS	2001	2003
GMC	Sierra 4WD	ABS	2000	2001
GMC	Sierra 4WD	ELECT VARI ORFIC	2000	2000
GMC	Sierra 4WD	RTD / EVO	2000	2001
GMC	Sierra 4WD	INST PANEL CLUS	2001	2001
GMC	Sierra 4WD	TRANSFER CASE	2000	2001
GMC	Sierra 4WD	PCM	2000	2001
GMC	Sierra 4WD	AIRBAG	2000	2001
GMC	Sierra 4WD	TRANSMISSION	2001	2001
GMC	Sierra C3 AWD	RTD / EVO	2001	2001
GMC	Sierra C3 AWD	TRANSFER CASE	2001	2001
GMC	Sierra C3 AWD	ABS	2001	2001
GMC	Sierra C3 AWD	INST PANEL CLUS	2001	2001
GMC	Sierra C3 AWD	AIRBAG	2001	2001
GMC	Sierra C3 AWD	PCM	2001	2001
GMC	Sierra Denali	AIRBAG	2002	2004
GMC	Sierra Denali	BODY CONTROL	2002	2004
GMC	Sierra Denali	TRACTION ASSIST	2004	2004
GMC	Sierra Denali	REAR AUX CLIM MOD	2004	2004
GMC	Sierra Denali	TIRE PRESSURE MONITOR	2004	2004
GMC	Sierra Denali	HEAT VENT A/C	2002	2003
GMC	Sierra Denali	REAR HVAC	2003	2004
GMC	Sierra Denali	PCM	2002	2004
GMC	Sierra Denali	INST PANEL CLUS	2002	2004
GMC	Sierra Denali	HVAC	2004	2004
GMC	Sierra Denali	ELECT VARI ORFIC	2002	2002
GMC	Sierra Denali	REAR AUX CLIMATE	2003	2003
GMC	Sierra Denali	ABS	2002	2004
GMC	Sierra Denali	VEHICLE THEFT DET	2004	2004
GMC	Sierra Denali	VSES	2002	2004
GMC	Sierra Denali	ELECT SUSP CNTRL	2004	2004
GMC	Sierra Denali	RTD / EVO	2002	2002
GMC	Sierra Denali	DRIVER INFO CTR	2002	2002
GMC	Sierra Denali	REAR WHEEL STEER	2002	2004
GMC	Sierra Denali	TRANSFER CASE	2002	2004
GMC	Sonoma	ABS	2004	2004
GMC	Sonoma	PCM	2004	2004
GMC	Sonoma	AIRBAG	2004	2004
GMC	Sonoma	TRANSFER CASE	2004	2004
GMC	Sonoma	INST PANEL CLUS	2004	2004
GMC	Sonoma	BODY CONTROL	2004	2004
GMC	Sonoma	TRACTION ASSIST	2004	2004
GMC	Sonoma 2WD	ABS	2000	2003

Vehicle Applications

GMC	Sonoma 2WD	TRACTION ASSIST	2002	2003
GMC	Sonoma 2WD	ABS (4WAL)	1996	1999
GMC	Sonoma 2WD	PCM	1996	2003
GMC	Sonoma 2WD	HEAT VENT A/C	1998	2001
GMC	Sonoma 2WD	AIRBAG	1996	2002
GMC	Sonoma 2WD	BODY CONTROL	2002	2003
GMC	Sonoma 4WD	TRANSFER CASE	1998	2003
GMC	Sonoma 4WD	ABS	2000	2003
GMC	Sonoma 4WD	AIRBAG	1996	2002
GMC	Sonoma 4WD	ABS (4WAL)	1996	1999
GMC	Sonoma 4WD	BODY CONTROL	2002	2003
GMC	Sonoma 4WD	PCM	1996	2003
GMC	Sonoma 4WD	HEAT VENT A/C	1998	2001
GMC	Sonoma,2WD	AIRBAG	1995	1995
GMC	Sonoma,2WD	PCM	1995	1995
GMC	Sonoma,2WD	ABS (4WAL)	1995	1995
GMC	Sonoma,2WD	ABS (RWAL)	1995	1995
GMC	Sonoma,4WD	ABS (4WAL)	1995	1995
GMC	Sonoma,4WD	PCM	1995	1995
GMC	Sonoma,4WD	ABS (RWAL)	1995	1995
GMC	Sonoma,4WD	AIRBAG	1995	1995
GMC	STL Tilt 67.2	PCM	1993	1994
GMC	STL Tilt 67.2	ENGINE	1991	1992
GMC	STL Tilt 67.2	TRANSMISSION	1994	1994
GMC	STL Tilt 67.9	PCM	1993	1997
GMC	STL Tilt 67.9	ENGINE	1992	1992
GMC	STL Tilt 67.9	TRANSMISSION	1994	1995
GMC	STL Tilt 76.2	TRANSMISSION	1994	1995
GMC	STL Tilt 76.2	ENGINE	1991	1992
GMC	STL Tilt 76.2	PCM	1993	1997
GMC	Suburban 2WD	INST PANEL CLUS	2001	2002
GMC	Suburban 2WD	RTD / EVO	2001	2002
GMC	Suburban 2WD	ABS	2001	2002
GMC	Suburban 2WD	PCM	1999	2002
GMC	Suburban 2WD	ABS (4WAL)	1999	1999
GMC	Suburban 2WD	TRACTION ASSIST	2001	2002
GMC	Suburban 2WD	BODY CONTROL	2002	2002
GMC	Suburban 2WD	DRIVER INFO CTR	2002	2002
GMC	Suburban 2WD	REAR WHEEL STEER	2002	2002
GMC	Suburban 2WD	AIRBAG	1999	2002
GMC	Suburban 2WD	HEAT VENT A/C	2002	2002
GMC	Suburban 4WD	PCM	1999	2002
GMC	Suburban 4WD	ABS (4WAL)	1999	1999
GMC	Suburban 4WD	AIRBAG	1999	2002
GMC	Suburban 4WD	REAR WHEEL STEER	2002	2002
GMC	Suburban 4WD	BODY CONTROL	2002	2002
GMC	Suburban 4WD	ABS	2001	2002
GMC	Suburban 4WD	ELECT VARI ORFIC	2002	2002
GMC	Suburban 4WD	RTD / EVO	2001	2002
GMC	Suburban 4WD	VSES	2002	2002
GMC	Suburban 4WD	INST PANEL CLUS	2001	2002
GMC	Suburban 4WD	TRANSFER CASE	1999	2002
GMC	Suburban 4WD	DRIVER INFO CTR	2002	2002

Vehicle Applications

GMC	Suburban 4WD	HEAT VENT A/C	2002	2002
GMC	Suburban O8600	TRACTION ASSIST	2000	2000
GMC	Suburban O8600	TRANSFER CASE	2000	2000
GMC	Suburban O8600	ABS	2000	2000
GMC	Suburban O8600	PCM	2000	2000
GMC	Suburban O8600	RTD / EVO	2000	2000
GMC	Suburban O8600	AIRBAG	2000	2000
GMC	Suburban U8600	TRACTION ASSIST	2000	2000
GMC	Suburban U8600	PCM	2000	2000
GMC	Suburban U8600	RTD / EVO	2000	2000
GMC	Suburban U8600	ABS	2000	2000
GMC	Suburban U8600	ELECT VARI ORFIC	2000	2000
GMC	Suburban U8600	TRANSFER CASE	2000	2000
GMC	Suburban U8600	AIRBAG	2000	2000
GMC	Suburban,2WD	ENGINE	1987	1991
GMC	Suburban,2WD	ABS (RWAL)	1990	1990
GMC	Suburban,4WD	ENGINE	1989	1991
GMC	Suburban,4WD	ABS (RWAL)	1990	1991
GMC	Syclone	ABS (4WAL)	1991	1992
GMC	Syclone	ENGINE	1991	1992
GMC	Syclone	ABS (RWAL)	1991	1992
GMC	Topkick	TRANSMISSION	1994	1995
GMC	Topkick	ENGINE	1991	1992
GMC	Topkick	PCM	1993	1997
GMC	Typhoon	ENGINE	1992	1994
GMC	Typhoon	ABS (RWAL)	1992	1994
GMC	Typhoon	ABS (4WAL)	1992	1994
GMC	V1500,4WD	ABS (RWAL)	1990	1991
GMC	V1500,4WD	ENGINE	1987	1991
GMC	V2500,4WD	ABS (RWAL)	1990	1991
GMC	V2500,4WD	ENGINE	1987	1991
GMC	V3500,4WD	ENGINE	1987	1991
GMC	V3500,4WD	ABS (RWAL)	1988	1991
GMC	Yukon	REAR HVAC	2004	2004
GMC	Yukon	BODY CONTROL	2004	2004
GMC	Yukon	INST PANEL CLUS	2004	2004
GMC	Yukon	AIRBAG	2004	2004
GMC	Yukon	ABS	2004	2004
GMC	Yukon	ELECT SUSP CNTRL	2004	2004
GMC	Yukon	TIRE PRESSURE MONITOR	2004	2004
GMC	Yukon	PCM	2004	2004
GMC	Yukon	VEHICLE THEFT DET	2004	2004
GMC	Yukon	REAR WHEEL STEER	2004	2004
GMC	Yukon	TRANSFER CASE	2004	2004
GMC	Yukon	REAR AUX CLIM MOD	2004	2004
GMC	Yukon	VSES	2004	2004
GMC	Yukon	HVAC	2004	2004
GMC	Yukon	TRACTION ASSIST	2004	2004
GMC	Yukon 2WD	BODY CONTROL	2002	2002
GMC	Yukon 2WD	TRACTION ASSIST	2000	2003
GMC	Yukon 2WD	REAR WHEEL STEER	2002	2003
GMC	Yukon 2WD	HEAT VENT A/C	2002	2003
GMC	Yukon 2WD	REAR AUX CLIMATE	2003	2003

Vehicle Applications

GMC	Yukon 2WD	PCM	1999	2003
GMC	Yukon 2WD	RTD / EVO	2000	2002
GMC	Yukon 2WD	ELECT SUSP CNTRL	2003	2003
GMC	Yukon 2WD	ABS	2000	2003
GMC	Yukon 2WD	REAR HVAC	2003	2003
GMC	Yukon 2WD	AIRBAG	1999	2003
GMC	Yukon 2WD	ABS (4WAL)	1999	1999
GMC	Yukon 2WD	VSES	2003	2003
GMC	Yukon 2WD	INST PANEL CLUS	2001	2002
GMC	Yukon 2WD	DRIVER INFO CTR	2002	2002
GMC	Yukon 4WD	REAR HVAC	2003	2003
GMC	Yukon 4WD	ELECT VARI ORFIC	2000	2002
GMC	Yukon 4WD	PCM	1999	2003
GMC	Yukon 4WD	VSES	2002	2003
GMC	Yukon 4WD	HEAT VENT A/C	2002	2003
GMC	Yukon 4WD	ABS	2000	2003
GMC	Yukon 4WD	BODY CONTROL	2002	2002
GMC	Yukon 4WD	REAR AUX CLIMATE	2003	2003
GMC	Yukon 4WD	DRIVER INFO CTR	2002	2002
GMC	Yukon 4WD	TRANSFER CASE	1999	2003
GMC	Yukon 4WD	AIRBAG	1999	2003
GMC	Yukon 4WD	REAR WHEEL STEER	2002	2003
GMC	Yukon 4WD	RTD / EVO	2000	2002
GMC	Yukon 4WD	INST PANEL CLUS	2001	2002
GMC	Yukon 4WD	ABS (4WAL)	1999	1999
GMC	Yukon Denali	HVAC	2004	2004
GMC	Yukon Denali	RTD / EVO	2000	2002
GMC	Yukon Denali	INST PANEL CLUS	2001	2004
GMC	Yukon Denali	PCM	1999	2004
GMC	Yukon Denali	REAR AUX CLIM MOD	2004	2004
GMC	Yukon Denali	ABS (4WAL)	1999	1999
GMC	Yukon Denali	REAR HVAC	2003	2004
GMC	Yukon Denali	ELECT VARI ORFIC	2000	2002
GMC	Yukon Denali	VSES	2002	2004
GMC	Yukon Denali	TRACTION ASSIST	2002	2004
GMC	Yukon Denali	ABS	2000	2004
GMC	Yukon Denali	TIRE PRESSURE MONITOR	2004	2004
GMC	Yukon Denali	REAR WHEEL STEER	2002	2004
GMC	Yukon Denali	VEHICLE THEFT DET	2004	2004
GMC	Yukon Denali	BODY CONTROL	2002	2004
GMC	Yukon Denali	REAR AUX CLIMATE	2003	2003
GMC	Yukon Denali	TRANSFER CASE	1999	2004
GMC	Yukon Denali	AIRBAG	1999	2004
GMC	Yukon Denali	HEAT VENT A/C	2002	2003
GMC	Yukon Denali	ELECT SUSP CNTRL	2003	2004
GMC	Yukon Denali	DRIVER INFO CTR	2002	2002
GMC	Yukon XL	ABS	2004	2004
GMC	Yukon XL	HVAC	2004	2004
GMC	Yukon XL	AIRBAG	2004	2004
GMC	Yukon XL	TIRE PRESSURE MONITOR	2004	2004
GMC	Yukon XL	INST PANEL CLUS	2004	2004
GMC	Yukon XL	TRANSFER CASE	2004	2004

Vehicle Applications

GMC	Yukon XL	VSES	2004	2004
GMC	Yukon XL	BODY CONTROL	2004	2004
GMC	Yukon XL	REAR WHEEL STEER	2004	2004
GMC	Yukon XL	TRACTION ASSIST	2004	2004
GMC	Yukon XL	ELECT SUSP CNTRL	2004	2004
GMC	Yukon XL	VEHICLE THEFT DET	2004	2004
GMC	Yukon XL	REAR HVAC	2004	2004
GMC	Yukon XL	REAR AUX CLIM MOD	2004	2004
GMC	Yukon XL	PCM	2004	2004
GMC	Yukon XL 2WD	ELECT SUSP CNTRL	2003	2003
GMC	Yukon XL 2WD	DRIVER INFO CTR	2002	2002
GMC	Yukon XL 2WD	BODY CONTROL	2002	2002
GMC	Yukon XL 2WD	PCM	2000	2003
GMC	Yukon XL 2WD	VSES	2003	2003
GMC	Yukon XL 2WD	REAR HVAC	2003	2003
GMC	Yukon XL 2WD	TRACTION ASSIST	2000	2003
GMC	Yukon XL 2WD	REAR WHEEL STEER	2002	2003
GMC	Yukon XL 2WD	AIRBAG	2000	2003
GMC	Yukon XL 2WD	ABS	2000	2003
GMC	Yukon XL 2WD	HEAT VENT A/C	2002	2003
GMC	Yukon XL 2WD	INST PANEL CLUS	2001	2002
GMC	Yukon XL 2WD	REAR AUX CLIMATE	2003	2003
GMC	Yukon XL 2WD	RTD / EVO	2000	2002
GMC	Yukon XL 4WD	PCM	2000	2003
GMC	Yukon XL 4WD	DRIVER INFO CTR	2002	2002
GMC	Yukon XL 4WD	REAR WHEEL STEER	2002	2003
GMC	Yukon XL 4WD	ABS	2000	2003
GMC	Yukon XL 4WD	RTD / EVO	2000	2002
GMC	Yukon XL 4WD	TRANSFER CASE	2000	2003
GMC	Yukon XL 4WD	ELECT VARI ORFIC	2000	2002
GMC	Yukon XL 4WD	HEAT VENT A/C	2002	2003
GMC	Yukon XL 4WD	VSES	2002	2003
GMC	Yukon XL 4WD	REAR AUX CLIMATE	2003	2003
GMC	Yukon XL 4WD	BODY CONTROL	2002	2002
GMC	Yukon XL 4WD	INST PANEL CLUS	2001	2002
GMC	Yukon XL 4WD	AIRBAG	2000	2003
GMC	Yukon XL 4WD	REAR HVAC	2003	2003
GMC	Yukon XLDenali	ELECT SUSP CNTRL	2003	2003
GMC	Yukon XLDenali	PCM	2002	2003
GMC	Yukon XLDenali	RTD / EVO	2002	2002
GMC	Yukon XLDenali	ELECT VARI ORFIC	2002	2002
GMC	Yukon XLDenali	REAR AUX CLIMATE	2003	2003
GMC	Yukon XLDenali	REAR WHEEL STEER	2002	2003
GMC	Yukon XLDenali	REAR HVAC	2003	2003
GMC	Yukon XLDenali	TRANSFER CASE	2002	2003
GMC	Yukon XLDenali	ABS	2002	2003
GMC	Yukon XLDenali	VSES	2002	2003
GMC	Yukon XLDenali	HEAT VENT A/C	2002	2003
GMC	Yukon XLDenali	TRACTION ASSIST	2002	2003
GMC	Yukon XLDenali	AIRBAG	2002	2003
GMC	Yukon XLDenali	BODY CONTROL	2002	2002
GMC	Yukon XLDenali	INST PANEL CLUS	2002	2002
GMC	Yukon XLDenali	DRIVER INFO CTR	2002	2002

Vehicle Applications

Hummer	H2	AIR SUSPENSION	2004	2004
Hummer	H2	ABS	2004	2004
Hummer	H2	AIRBAG	2004	2004
Hummer	H2	TRANSFER CASE	2004	2004
Hummer	H2	BODY CONTROL	2004	2004
Hummer	H2	PCM	2004	2004
Hummer	H2	INST PANEL CLUS	2004	2004
Oldsmobile	88	ABS #2	1996	1996
Oldsmobile	88	AIRBAG	1996	1996
Oldsmobile	88	PCM	1996	1996
Oldsmobile	88	HEAT VENT A/C	1996	1996
Oldsmobile	88	ABS #1	1996	1996
Oldsmobile	88	INST PANEL CLUS	1996	1996
Oldsmobile	98	ABS #2	1994	1996
Oldsmobile	98	INST PANEL CLUS	1994	1996
Oldsmobile	98	ABS #1	1994	1996
Oldsmobile	98	PCM	1993	1996
Oldsmobile	98	ABS	1991	1993
Oldsmobile	98	POWERTRAIN#1	1995	1995
Oldsmobile	98	HEAT VENT A/C	1992	1996
Oldsmobile	98	AIRBAG	1991	1996
Oldsmobile	98	ENGINE	1981	1992
Oldsmobile	98	POWERTRAIN#2	1995	1995
Oldsmobile	98	ABS TEVES II	1989	1990
Oldsmobile	98	REMOTE ACT CONT	1994	1995
Oldsmobile	Achieva	ABS	1996	1998
Oldsmobile	Achieva	AIRBAG	1992	1998
Oldsmobile	Achieva	ABS VI	1992	1995
Oldsmobile	Achieva	ENGINE	1992	1992
Oldsmobile	Achieva	PCM	1993	1998
Oldsmobile	Achieva	INST PANEL CLUS	1996	1996
Oldsmobile	Alero	BODY CONTROL	2000	2004
Oldsmobile	Alero	ABS/ETS/TIM	2000	2000
Oldsmobile	Alero	ABS	1999	2004
Oldsmobile	Alero	ABS/ETS/VES	2000	2004
Oldsmobile	Alero	AIRBAG	1999	2004
Oldsmobile	Alero	ABS/ETS	2000	2004
Oldsmobile	Alero	PCM	1999	2004
Oldsmobile	Alero	ABS/ETS/TIM/VES	2000	2004
Oldsmobile	Alero	INST PANEL CLUS	1999	2004
Oldsmobile	Aurora	ABS/TIM	2001	2003
Oldsmobile	Aurora	ABS #2	1995	1999
Oldsmobile	Aurora	ABS/TCS	2001	2003
Oldsmobile	Aurora	ABS #1	1995	1999
Oldsmobile	Aurora	MAGNASTEER	2001	2003
Oldsmobile	Aurora	AIRBAG	1995	2003
Oldsmobile	Aurora	PCM	1996	2003
Oldsmobile	Aurora	POWERTRAIN#2	1995	1995
Oldsmobile	Aurora	HEAT VENT A/C	1995	1996
Oldsmobile	Aurora	DRIVER INFO CTR	2001	2003
Oldsmobile	Aurora	DASH INTEGRTION	2001	2003
Oldsmobile	Aurora	POWERTRAIN#1	1995	1995
Oldsmobile	Aurora	ABS/TCS/TIM/VSES	2001	2003

Vehicle Applications

Oldsmobile	Aurora	REMOTE ACT CONT	1995	1995
Oldsmobile	Aurora	TRANSMISSION	1995	1995
Oldsmobile	Aurora	INST PANEL CLUS	1995	2003
Oldsmobile	Aurora	ABS	2001	2003
Oldsmobile	Aurora	ABS/TCS/TIM	2001	2003
Oldsmobile	Aurora	REAR INT MOD	2001	2003
Oldsmobile	Bravada	ABS (4WAL)	1992	1999
Oldsmobile	Bravada	AIRBAG	1994	2004
Oldsmobile	Bravada	TRANSMISSION	1993	1994
Oldsmobile	Bravada	ENGINE	1991	1992
Oldsmobile	Bravada	TRANSFER CASE	1998	2003
Oldsmobile	Bravada	HEAT VENT A/C	1998	2001
Oldsmobile	Bravada	PCM	1993	2004
Oldsmobile	Bravada	TRACTION ASSIST	2002	2004
Oldsmobile	Bravada	ABS (RWAL)	1992	1994
Oldsmobile	Bravada	INST PANEL CLUS	2004	2004
Oldsmobile	Bravada	ABS	2000	2004
Oldsmobile	Ciera	ABS	1996	1996
Oldsmobile	Ciera	AIRBAG	1996	1996
Oldsmobile	Ciera	PCM	1996	1996
Oldsmobile	Custom Cruiser	ABS	1991	1992
Oldsmobile	Custom Cruiser	ENGINE	1980	1992
Oldsmobile	Custom Cruiser	AIRBAG	1992	1992
Oldsmobile	Cutlass	AIRBAG	1997	1999
Oldsmobile	Cutlass	ENGINE	1989	1989
Oldsmobile	Cutlass	BODY FUNC CONTR	1998	1998
Oldsmobile	Cutlass	ABS	1997	1999
Oldsmobile	Cutlass	PCM	1997	1999
Oldsmobile	Cutlass Brougm	ENGINE	1988	1988
Oldsmobile	Cutlass Calais	ENGINE	1983	1991
Oldsmobile	Cutlass Calais	ABS VI	1991	1991
Oldsmobile	Cutlass Ciera	ABS VI	1991	1995
Oldsmobile	Cutlass Ciera	AIRBAG	1993	1995
Oldsmobile	Cutlass Ciera	PCM	1993	1995
Oldsmobile	Cutlass Ciera	ENGINE	1982	1992
Oldsmobile	Cutlass Cruisr	ABS VI	1993	1995
Oldsmobile	Cutlass Cruisr	AIRBAG	1993	1995
Oldsmobile	Cutlass Cruisr	PCM	1993	1995
Oldsmobile	Cutlass Cruisr	ENGINE	1980	1983
Oldsmobile	Cutlass Supr	REMOTE ACT CONT	1995	1995
Oldsmobile	Cutlass Supr	ABS	1996	1997
Oldsmobile	Cutlass Supr	PCM	1993	1997
Oldsmobile	Cutlass Supr	ENGINE	1980	1992
Oldsmobile	Cutlass Supr	AIRBAG	1993	1997
Oldsmobile	Cutlass Supr	ABS III	1989	1992
Oldsmobile	Cutlass Supr	ABS VI	1992	1995
Oldsmobile	Delta 88	ABS #2	1994	1995
Oldsmobile	Delta 88	POWERTRAIN#2	1995	1995
Oldsmobile	Delta 88	ABS TEVES II	1989	1990
Oldsmobile	Delta 88	INST PANEL CLUS	1995	1995
Oldsmobile	Delta 88	REMOTE ACT CONT	1995	1995
Oldsmobile	Delta 88	ENGINE	1980	1992
Oldsmobile	Delta 88	AIRBAG	1991	1995

Vehicle Applications

Oldsmobile	Delta 88	HEAT VENT A/C	1992	1995
Oldsmobile	Delta 88	POWERTRAIN#1	1995	1995
Oldsmobile	Delta 88	PCM	1993	1995
Oldsmobile	Delta 88	ABS	1991	1993
Oldsmobile	Delta 88	ABS #1	1994	1995
Oldsmobile	Eighty Eight	ABS #1	1997	1999
Oldsmobile	Eighty Eight	HEAT VENT A/C	1997	1999
Oldsmobile	Eighty Eight	INST PANEL CLUS	1997	1999
Oldsmobile	Eighty Eight	ABS #2	1997	1999
Oldsmobile	Eighty Eight	AIRBAG	1997	1999
Oldsmobile	Eighty Eight	PCM	1997	1999
Oldsmobile	Firenza	ENGINE	1982	1988
Oldsmobile	Intrigue	ABS/TCS/VES	2000	2002
Oldsmobile	Intrigue	ABS/TCS/VSES	2000	2002
Oldsmobile	Intrigue	AIRBAG	1998	2002
Oldsmobile	Intrigue	ABS(DELCO VI)	1999	1999
Oldsmobile	Intrigue	BODY CONTROL	1998	2002
Oldsmobile	Intrigue	INST PANEL CLUS	1998	2002
Oldsmobile	Intrigue	HEAT VENT A/C	1998	2002
Oldsmobile	Intrigue	ABS	1998	1998
Oldsmobile	Intrigue	ABS/VES	2000	2002
Oldsmobile	Intrigue	ABS (BOSCH)	1999	1999
Oldsmobile	Intrigue	PCM	1998	2002
Oldsmobile	LSS	AIRBAG	1996	1999
Oldsmobile	LSS	HEAT VENT A/C	1996	1999
Oldsmobile	LSS	INST PANEL CLUS	1996	1999
Oldsmobile	LSS	PCM	1996	1999
Oldsmobile	LSS	ABS #1	1996	1999
Oldsmobile	LSS	ABS #2	1996	1999
Oldsmobile	LSS	ABS	1997	1997
Oldsmobile	Omega	ENGINE	1981	1984
Oldsmobile	Regency	INST PANEL CLUS	1997	1998
Oldsmobile	Regency	HEAT VENT A/C	1997	1998
Oldsmobile	Regency	ABS #1	1998	1998
Oldsmobile	Regency	PCM	1997	1998
Oldsmobile	Regency	AIRBAG	1997	1998
Oldsmobile	Regency	ABS #2	1997	1998
Oldsmobile	Silhouette	VEH THEFT DETER	2000	2003
Oldsmobile	Silhouette	TCS	1999	1999
Oldsmobile	Silhouette	ABS	1999	2004
Oldsmobile	Silhouette	AIRBAG	1999	2004
Oldsmobile	Silhouette	PCM	1999	2004
Oldsmobile	Silhouette	ABS/TCS	2000	2004
Oldsmobile	Silhouette	MEMORY SEAT	2002	2003
Oldsmobile	Silhouette	VEHICLE THEFT DET	2004	2004
Oldsmobile	Silhouette	DRIVER INFO CTR	2002	2003
Oldsmobile	Silhouette APV	ENGINE	1990	1992
Oldsmobile	Silhouette APV	ABS	1996	1998
Oldsmobile	Silhouette APV	TCS	1997	1998
Oldsmobile	Silhouette APV	AIRBAG	1994	1997
Oldsmobile	Silhouette APV	PCM	1993	1998
Oldsmobile	Silhouette APV	ABS VI	1992	1995
Oldsmobile	Starfire	ENGINE	1980	1980

Vehicle Applications

Oldsmobile	Toronado	AIRBAG	1990	1992
Oldsmobile	Toronado	ENGINE	1981	1992
Oldsmobile	Toronado	ABS	1991	1992
Oldsmobile	Toronado	ABS TEVES II	1988	1990
Pontiac	2000	ENGINE	1983	1983
Pontiac	6000	ENGINE	1982	1991
Pontiac	Aztek	VEH THEFT DETER	2001	2003
Pontiac	Aztek	AIRBAG	2001	2004
Pontiac	Aztek	PCM	2001	2004
Pontiac	Aztek	BODY CONTROL	2001	2004
Pontiac	Aztek	VEHICLE THEFT DET	2004	2004
Pontiac	Aztek	HEAT VENT A/C	2004	2004
Pontiac	Aztek	ABS/TCS	2001	2004
Pontiac	Aztek	ABS/TPM	2001	2004
Pontiac	Aztek	INST PANEL CLUS	2001	2004
Pontiac	Aztek	MEMORY SEAT MOD	2004	2004
Pontiac	Aztek	ABS/TCS/TPM	2001	2004
Pontiac	Aztek	ABS	2001	2004
Pontiac	Bonneville	ABS/TCS/TIM	2000	2004
Pontiac	Bonneville	ABS/TIM	2000	2004
Pontiac	Bonneville	HEAT VENT A/C	1992	1998
Pontiac	Bonneville	MAGNASTEER	2000	2004
Pontiac	Bonneville	DASH INTEGRTION	2000	2002
Pontiac	Bonneville	CLIM CNTRL PANEL	2004	2004
Pontiac	Bonneville	INST PANEL CLUS	2000	2004
Pontiac	Bonneville	AIRBAG	1992	2004
Pontiac	Bonneville	ABS #1	1994	1999
Pontiac	Bonneville	REAR INT MOD	2000	2004
Pontiac	Bonneville	ABS TEVES II	1989	1990
Pontiac	Bonneville	POWERTRAIN#1	1995	1995
Pontiac	Bonneville	PCM	1993	2004
Pontiac	Bonneville	REMOTE ACT CONT	1994	1995
Pontiac	Bonneville	VEHICLE THEFT DET	2004	2004
Pontiac	Bonneville	VEH THEFT DETER	2000	2003
Pontiac	Bonneville	ABS #2	1994	1999
Pontiac	Bonneville	ABS	1991	2004
Pontiac	Bonneville	ABS/TCS/TIM/VSES	2000	2004
Pontiac	Bonneville	INST PANEL MOD	2004	2004
Pontiac	Bonneville	POWERTRAIN#2	1995	1995
Pontiac	Bonneville	ENGINE	1980	1992
Pontiac	Bonneville	ABS/TCS	2000	2004
Pontiac	Catalina	ENGINE	1980	1981
Pontiac	Fiero	ENGINE	1984	1988
Pontiac	Firebird	ENGINE	1980	1992
Pontiac	Firebird	POWERTRAIN (FAST)	1986	1989
Pontiac	Firebird	INST PANEL CLUS	1999	2002
Pontiac	Firebird	ABS	1996	2002
Pontiac	Firebird	PCM	1993	2002
Pontiac	Firebird	POWERTRAIN (SLOW)	1986	1989
Pontiac	Firebird	ABS VI	1993	1994
Pontiac	Firebird	ABS/ETS	2000	2002
Pontiac	Firebird	TRANSMISSION	1994	1994
Pontiac	Firebird	ABS/TCS	2000	2002

Vehicle Applications

Pontiac	Firebird	AIRBAG	1990	2002
Pontiac	Firebird/Conv	ENGINE	1992	1992
Pontiac	Firebird/Conv	AIRBAG	1992	1995
Pontiac	Firebird/Conv	ABS VI	1995	1995
Pontiac	Firebird/Conv	PCM	1995	1995
Pontiac	Firebird/Conv	TRANSMISSION	1995	1995
Pontiac	Firefly	AIRBAG	1990	1992
Pontiac	Formula	TRANSMISSION	1994	1994
Pontiac	Formula	PCM	1993	1994
Pontiac	Formula	ABS VI	1993	1994
Pontiac	Formula	AIRBAG	1993	1994
Pontiac	Formula/Conv	ABS VI	1995	1995
Pontiac	Formula/Conv	PCM	1995	1995
Pontiac	Formula/Conv	TRANSMISSION	1995	1995
Pontiac	Formula/Conv	AIRBAG	1995	1995
Pontiac	Grand Am	ABS VI	1991	1995
Pontiac	Grand Am	ABS	1996	2004
Pontiac	Grand Am	AIRBAG	1992	2004
Pontiac	Grand Am	ENGINE	1980	1992
Pontiac	Grand Am	ABS/ETS/TIM/VES	2000	2004
Pontiac	Grand Am	ABS/ETS	2000	2004
Pontiac	Grand Am	BODY CONTROL	2001	2004
Pontiac	Grand Am	PCM	1993	2004
Pontiac	Grand Am	INST PANEL CLUS	1996	2004
Pontiac	Grand Am	ABS/ETS/VES	2000	2004
Pontiac	Grand Am	ABS/ETS/TIM	2000	2000
Pontiac	Grand Lemans	ENGINE	1980	1981
Pontiac	Grand Prix	ABS	1996	2003
Pontiac	Grand Prix	PCM	1993	2004
Pontiac	Grand Prix	AIRBAG	1994	2004
Pontiac	Grand Prix	HEAT VENT A/C	2004	2004
Pontiac	Grand Prix	ABS VI	1992	1995
Pontiac	Grand Prix	BODY CONTROL	2004	2004
Pontiac	Grand Prix	ABS/TCS/TPM/VES	2004	2004
Pontiac	Grand Prix	VEH THEFT DETER	2000	2003
Pontiac	Grand Prix	ABS III	1989	1992
Pontiac	Grand Prix	ENGINE	1980	1992
Pontiac	Grand Prix	ABS/TCS/TPM/VES/VSES	2004	2004
Pontiac	Grand Prix	ABS/ETS/TPM/VES	2004	2004
Pontiac	Grand Prix	INST PANEL CLUS	2004	2004
Pontiac	Grand Prix	ABS/ETS/TPM	2004	2004
Pontiac	GTO	ABS/TCS	2004	2004
Pontiac	GTO	BODY CONTROL	2004	2004
Pontiac	GTO	ENGINE/PCM	2004	2004
Pontiac	J2000	ENGINE	1982	1982
Pontiac	Lemans	ENGINE	1980	1993
Pontiac	Montana	TCS	1999	1999
Pontiac	Montana	AIRBAG	1999	2004
Pontiac	Montana	VEHICLE THEFT DET	2004	2004
Pontiac	Montana	PCM	1999	2004
Pontiac	Montana	VEH THEFT DETER	2000	2003
Pontiac	Montana	DRIVER INFO CTR	2002	2003
Pontiac	Montana	ABS/TCS	2000	2004

Vehicle Applications

Pontiac	Montana	ABS	1999	2004
Pontiac	Montana	MEMORY SEAT	2002	2003
Pontiac	Parisienne	ENGINE	1984	1986
Pontiac	Phoenix	ENGINE	1981	1984
Pontiac	Safari	ENGINE	1987	1989
Pontiac	Sunbird	ABS VI	1992	1994
Pontiac	Sunbird	PCM	1993	1994
Pontiac	Sunbird	ENGINE	1980	1992
Pontiac	Sunfire	PCM	1995	2004
Pontiac	Sunfire	ABS/ETS	2000	2004
Pontiac	Sunfire	INST PANEL CLUS	1995	2004
Pontiac	Sunfire	ABS	1996	2004
Pontiac	Sunfire	AIRBAG	1995	2004
Pontiac	Sunfire	ABS VI	1995	1995
Pontiac	Sunfire	BODY CONTROL	2001	2004
Pontiac	Sunfire Alt/F	AIRBAG	2001	2002
Pontiac	Sunfire Alt/F	PCM	2001	2002
Pontiac	Sunfire Alt/F	ABS/ETS	2001	2002
Pontiac	Sunfire Alt/F	BODY CONTROL	2001	2002
Pontiac	Sunfire Alt/F	ABS	2001	2002
Pontiac	Sunfire Alt/F	INST PANEL CLUS	2002	2002
Pontiac	Sunfire Alt/F	ALTERNATE FUEL	2002	2002
Pontiac	T1000	ENGINE	1981	1987
Pontiac	Trans Sprt APV	ABS VI	1992	1995
Pontiac	Trans Sprt APV	AIRBAG	1994	1997
Pontiac	Trans Sprt APV	TCS	1997	1998
Pontiac	Trans Sprt APV	ENGINE	1990	1992
Pontiac	Trans Sprt APV	ABS	1996	1998
Pontiac	Trans Sprt APV	PCM	1993	1998
Pontiac	Vibe	ENGINE/TRANS	2003	2004
Pontiac	Vibe	AIRBAG	2003	2004
Pontiac	Vibe	ABS	2003	2004
Global OBD II	Global OBD II	ENGINE-OBDII	1	1
Jeep	Cherokee	ABS	1992	2001
Jeep	Cherokee	AIRBAG	1999	2001
Jeep	Cherokee	CCD BUS MONITOR	1992	1999
Jeep	Cherokee	ENGINE	1991	2001
Jeep	Cherokee	ENGINE-OBDII	1996	2001
Jeep	Cherokee	TRANSMISSION	1997	1999
Jeep	Cherokee (RHD)	ABS	1995	1996
Jeep	Cherokee (RHD)	CCD BUS MONITOR	1995	1998
Jeep	Cherokee (RHD)	ENGINE	1991	1998
Jeep	Cherokee (RHD)	ENGINE-OBDII	1996	1998
Jeep	Cherokee (RHD)	TRANSMISSION	1997	1998
Jeep	Comanche	CCD BUS MONITOR	1992	1992
Jeep	Comanche	ENGINE	1991	1992
Jeep	Grand Cherokee	ABS	1993	2004
Jeep	Grand Cherokee	AIRBAG	1999	2004
Jeep	Grand Cherokee	ENGINE	1991	2004
Jeep	Grand Cherokee	ENGINE-OBDII	1996	2004
Jeep	Grand Cherokee	INST CLUSTER	2001	2004
Jeep	Grand Cherokee	SKIM	1999	2004
Jeep	Grand Cherokee	TRANSMISSION	1996	2004

Vehicle Applications

Jeep	Grand Cherokee	BODY	1996	2004
Jeep	Grand Cherokee	CCD BUS MONITOR	1992	1998
Jeep	Grand Cherokee	CLIMATE CONTROL	1996	2004
Jeep	Grand Wagoneer	CCD BUS MONITOR	1993	1993
Jeep	Grand Wagoneer	ENGINE	1991	1993
Jeep	Liberty	ABS	2002	2004
Jeep	Liberty	BODY	2002	2004
Jeep	Liberty	ENGINE-OBDII	2002	2004
Jeep	Liberty	INSTRUMENT CLUSTER	2004	2004
Jeep	Liberty	SKIM	2003	2004
Jeep	Liberty	TRANSMISSION	2002	2003
Jeep	Liberty	AIRBAG	2002	2003
Jeep	Liberty	ENGINE	2002	2004
Jeep	Liberty	INST CLUSTER	2002	2002
Jeep	Wrangler	AIRBAG	1999	2004
Jeep	Wrangler	CCD BUS MONITOR	1992	1999
Jeep	Wrangler	ENGINE	1991	2004
Jeep	Wrangler	ABS	1993	2004
Jeep	Wrangler	ENGINE-OBDII	1997	2004
Jeep	Wrangler	INST CLUSTER	2001	2004
Jeep	Wrangler	SKIM	1999	2004
Jeep	Wrangler	TRANSMISSION	2000	2004
Saturn	SL	TRANSAXLE	1995	1995
Saturn	SL	ABS VI	1995	1995
Saturn	SL	ENGINE	1996	1999
Saturn	SL	PCM SPARK DATA	1995	1995
Saturn	SL	ABS	1996	1999
Saturn	SL	PCM FUEL/EMISS	1995	1995
Saturn	SL	PCM I/O DATA	1995	1995
Saturn	SL, SC, SW	TRANSMISSION	2000	2002
Saturn	SL, SC, SW	AIRBAG	1993	2002
Saturn	SL, SC, SW	PCM FUEL/EMISS	1995	1995
Saturn	SL, SC, SW	PCM SPARK DATA	1995	1995
Saturn	SL, SC, SW	ABS	1993	2002
Saturn	SL, SC, SW	PCM IDLE DATA	1995	1995
Saturn	SL, SC, SW	BODY CONTROL	2000	2002
Saturn	SL, SC, SW	TRANSAXLE	1993	1995
Saturn	SL, SC, SW	PCM	1994	1994
Saturn	SL, SC, SW	PCM I/O DATA	1995	1995
Saturn	SL, SC, SW	PCM BASE DATA	1993	1995
Saturn	SL, SC, SW	ABS VI	1994	1994
Saturn	SL, SC, SW	ENGINE	1993	2002
Saturn	SL, SL1	PCM BASE DATA	1995	1995
Saturn	SL,SC	ENGINE	1991	1992
Saturn	SL,SC	AIRBAG	1992	1992
Saturn	SL,SC	ABS	1991	1992
Saturn	SL,SC	TRANSAXLE	1991	1992
Saturn	SL1	PCM SPARK DATA	1995	1995
Saturn	SL1	TRANSAXLE	1992	1995
Saturn	SL1	AIRBAG	1992	1999
Saturn	SL1	ABS	1992	1999
Saturn	SL1	ABS VI	1995	1995
Saturn	SL1	PCM FUEL/EMISS	1995	1995

Vehicle Applications

Saturn	SL1	PCM I/O DATA	1995	1995
Saturn	SL1	TRANSMISSION	1996	1999
Saturn	SL1	PCM IDLE DATA	1995	1995
Saturn	SL1	ENGINE	1991	1999
Saturn	SL1	PCM BASE DATA	1995	1995
Saturn	SL1, SC2, SW1	TRANSAXLE	1993	1994
Saturn	SL1, SC2, SW1	AIRBAG	1993	1994
Saturn	SL1, SC2, SW1	ABS VI	1994	1994
Saturn	SL1, SC2, SW1	ABS	1993	1993
Saturn	SL1, SC2, SW1	PCM	1994	1994
Saturn	SL1, SC2, SW1	ENGINE	1993	1993
Saturn	SL1, SC2, SW1	PCM BASE DATA	1993	1994
Saturn	SL1,SC	ABS	1992	1992
Saturn	SL1,SC	TRANSAXLE	1992	1992
Saturn	SL1,SC	AIRBAG	1992	1992
Saturn	SL1,SC	ENGINE	1991	1992
Saturn	SL2	ABS VI	1995	1995
Saturn	SL2	PCM I/O DATA	1995	1995
Saturn	SL2	TRANSAXLE	1992	1995
Saturn	SL2	PCM IDLE DATA	1995	1995
Saturn	SL2	ABS	1992	1999
Saturn	SL2	TRANSMISSION	1996	1999
Saturn	SL2	PCM SPARK DATA	1995	1995
Saturn	SL2	PCM BASE DATA	1995	1995
Saturn	SL2	ENGINE	1991	1999
Saturn	SL2	PCM FUEL/EMISS	1995	1995
Saturn	SL2	AIRBAG	1992	1999
Saturn	SL2, SW2	AIRBAG	1993	1994
Saturn	SL2, SW2	TRANSAXLE	1993	1994
Saturn	SL2, SW2	PCM BASE DATA	1993	1994
Saturn	SL2, SW2	ABS VI	1994	1994
Saturn	SL2, SW2	ABS	1993	1993
Saturn	SL2, SW2	ENGINE	1993	1993
Saturn	SL2, SW2	PCM	1994	1994
Saturn	SW1	ABS VI	1995	1995
Saturn	SW1	ABS	1996	1999
Saturn	SW1	TRANSAXLE	1995	1995
Saturn	SW1	TRANSMISSION	1996	1999
Saturn	SW1	PCM I/O DATA	1995	1995
Saturn	SW1	PCM FUEL/EMISS	1995	1995
Saturn	SW1	AIRBAG	1995	1999
Saturn	SW1	ENGINE	1996	1999
Saturn	SW1	PCM IDLE DATA	1995	1995
Saturn	SW1	PCM BASE DATA	1995	1995
Saturn	SW1	PCM SPARK DATA	1995	1995
Saturn	SW2	AIRBAG	1995	1999
Saturn	SW2	TRANSAXLE	1995	1995
Saturn	SW2	ABS VI	1995	1995
Saturn	SW2	PCM SPARK DATA	1995	1995
Saturn	SW2	TRANSMISSION	1996	1999
Saturn	SW2	PCM BASE DATA	1995	1995
Saturn	SW2	ENGINE	1996	1999
Saturn	SW2	PCM IDLE DATA	1995	1995

Vehicle Applications

Saturn	SW2	ABS	1996	1999
Saturn	SW2	PCM I/O DATA	1995	1995
Saturn	SW2	PCM FUEL/EMISS	1995	1995
Saturn	VUE	ENGINE/PCM	2002	2004
Saturn	VUE	BODY CONTROL	2002	2003
Saturn	VUE	EPS	2004	2004
Saturn	VUE	TRANSMISSION	2002	2004
Saturn	VUE	ENGINE	2002	2004
Saturn	VUE	AIRBAG	2002	2004

Numerics

1 – 4 Shift Lamp 47
2nd Gear Start Lamp 47
3-2 Shift Solenoid 46

A

a 16
A/C Clutch Relay 48
Accessory Controls 48
Accurate Trim 28
Actuator Tests 49, 53
Air Pump 35
ALDL diagnostic state 22
ALDL State 22
All Outputs On 35
Alternator Lamp 43
Alternator L-Terminal 48
Analog meter 19
Audio Net Test 28

B

B.O.B. Info 67
Back-Up Fuel diagnostic state 22
Back-up Fuel State 22
Battery Disconnect 54
Boost Control 41

C

Canister Purge Solenoid 38
Canister Vent Solenoid 38
CCD Bus Monitor 59
Change Oil Lamp 43
Check Gauges Lamp 43
Chrysler
  Actuator Tests 49, 53
  B.O.B. Info 67
  Battery Disconnect 54
  CCD Bus Monitor 59
  Clear Codes 24
  Clutch Tests 58
  Clutch Volume Index Test 53
  Code History 30
  Code Information 64
  Component Locations 67
  Data Stream 9
  Data/Sensor Information 66
  Disable Door Lock 61
  Drive Cycle 32
  EMCC Status 54
  EMR Lamp Reset 59
  Enable Door Lock 60
  Enable/Disable Test 50, 52
  Idle Air Control Test 49
  Minimum Air Idle Speed 59
  Module Information 61
  OBD II Trip Status 58
  Other Tests 59
  Pathfinder 63
  Pinion Factor 54
  Pressure Switches 52
  Quick Learn 54
  Read Codes 23
  Read Pinion Factor 54
  Readiness Status 31, 32
  Related TSBs 62
  Reminder Lamp Reset 68
  Reset Adaptive Fuel 60
  Reset Flexible Fuel Percent 60
  Reset Idle Air Control 60
  Reset Minimum TPS 60
  Set Pinion Factor 54
  Set Sync Mode 60
  Specifications 61, 67
  Switch Test 50
  Symptoms 66
  System Type 62
  Trip Counts 30
  TSB References 66
  Vehicle Information 61
Circuit Description 65
Clear Codes 24
Clutch Tests 58
Clutch Volume Index Test 53
Code History 29
Code Information 64
  Circuit Description 65
  Code Setting 65
  Possible Causes 65
  Related Technical Service Bulletins 65
Code Setting 65
Codes, Diagnostic 23
Component Locations 67
Component Parameters 33
Conflict, Control module 12
Crankshaft Learn 36
Cruise Inhibit 48
Current Codes 23
Custom Data 13

D

Data Link 4
Data Stream 9
Data/Sensor Information 66
Datastream and Gas 10
Delete Recorded File 15
Diagnostic codes 23
Diagnostic menu 4
Diagnostic Menus 69
Diagnostic state, GM 22
  ALDL 22
  Back-p fuel 22
  Field service 22
  Road test 22
Diesel controls 40
Disable Door Lock 61
Drive Cycle 32
DTC Status 24

E

EGR Control 38
EGR Vent Solenoid 39
EMCC Status 54
EMR Lamp Reset 59
Enable Door Lock 60
Enable/Disable Test 49
Engine Controls 35
Engine Hot Lamp 43
Engine Indicator Lamps 42, 43
Engine Shutoff 41
EVAP Service Test 39
EVAP/EGR Control 37

F

Fail Since Clear 24
Failure Records 25
Failure Statements 65
  Electrical 65
  Mechanical 65
  Rationality 65
Fan On/Off 36
Fast Fixes 64
Field Service State 22
File Recording 15
Ford
  Accurate Trim 28
  All Outputs On 35
  Audio Net Test 28
  B.O.B. Info 67
  Clear Codes 24
  Code Information 64
  Component Locations 67
  Data Stream 9
  Data/Sensor Information 66
  Drive Cycle 32
  Ford 28
  Hi Speed Fan On 34
  KOEO Injector Buzz 26
  KOEO Output State 26
  KOEO self-test 26
  KOER Cylinder Contribution 27
  KOER Glow Plug 27
  KOER Self-Test 27
  KOER Switch Test 28
  Low Speed Fan On 34
  On Demand Test 28
  Output Controls 34
  Pathfinder 63
  Pending Codes 23
  Pneumatic Test 28
  Read Codes 23
  Readiness Status 31, 32
  Related TSBs 62
  Reminder Lamp Reset 68
  Seat Calibration 28
  Self-Diagnostics 25
  Specifications 61, 67
  Symptoms 66
  System Type 62
  TSB References 66
  Vehicle Information 61
  Wiggle Test 29
Freeze Frame 24
Freeze frame 14, 18
Fuel Closed Loop 40
Fuel Injection Timing 42
Fuel Injector Disable 40
Fuel Pump Relay 39
Fuel System controls 39
Fuel Trim Reset 40

G

Gas and Datastream 10
Gas Correlation Time Shift 12
GM
- 1 – 4 Shift Lamp 47
- 2nd Gear Start Lamp 47
- 3-2 Shift Solenoid 46
- A/C Clutch Relay 48
- Accessory Controls 48
- Air Pump 35
- Alternator Lamp 43
- Alternator L-Terminal 48
- B.O.B. Info 67
- Boost Control 41
- Canister Purge Solenoid 38
- Canister Vent Solenoid 38
- Change Oil Lamp 43
- Check Gauges Lamp 43
- Clear Codes 24
- Code Information 64
- Component Locations 67
- Crankshaft Learn 36
- Cruise Inhibit 48
- Current codes 23
- Data Stream 9
- Data/Sensor Information 66
- Diesel controls 40
- Drive Cycle 32
- DTC Status 24
- EGR Control 38
- EGR Vent Solenoid 39
- Engine Controls 35
- Engine Hot Lamp 43
- Engine Indicator Lamps 42, 43
- Engine Shutoff 41
- EVAP Service Test 39
- EVAP/EGR Control 37
- Fail Since Clear 24
- Failure Records 25
- Fan On/Off 36
- Fuel Closed Loop 40
- Fuel Injection Timing 42
- Fuel Injector (1 – 8) Disable 40
- Fuel Pump Relay 39
- Fuel System controls 39
- Fuel Trim Reset 40
- High Fan 36
- IAC Position 37
- IAC RPM 37
- Low Coolant Lamp 43
- Low Fan 36
- MIL Lamp Control 44
- O2 Tests 33
- Oil Level Lamp 44
- Oil Pressure Lamp 44
- Pathfinder 63
- Preset/Reset Adaptive Parameters 46
- Pressure Control 45
- PROM Identification 62
- Readiness Status 31, 32
- Related TSBs 62
- Reminder Lamp Reset 68
- Reverse Inhibit Control 45
- Shift Lamp 47
- Skip Shift Control 46
- Spark Retard 37
- Specifications 61, 67
- Starter Inhibit 37
- STS Lamp 44
- Symptoms 66
- System Type 62
- Torque Converter Clutch Control 45
- Transmission controls 44
- Transmission Gear 46
- Transmission Lamps 47
- TSB References 66
- Up-shift Lamp 47
- Vehicle Information 61

GM Diagnostic State 22
- ALDL State 22
- Back-up Fuel State 22
- Field Service State 22
- Road Test State 22

GM diagnostic state 22
Graph, zoom 20
Graphing 18

H

Hi Speed Fan On 34
High Fan 36

I

IAC Position 37
IAC RPM 37
Idle Air Control Test 49
Infrared port 20
Installation, software 1

J

Jeep
- 66
- Actuator Tests 49
- B.O.B. Info 67
- Battery Disconnect 54
- CCD Bus Monitor 59
- Clear Codes 24
- Clutch Tests 58
- Clutch Volume Index Test 53
- Code History 30
- Code Information 64
- Component Locations 67
- Data Stream 9
- Disable Door Lock 61
- Drive Cycle 32
- EMCC Status 54
- EMR Lamp Reset 59
- Enable Door Lock 60
- Enable/Disable Test 50, 52
- Idle Air Control Test 49
- Minimum Air Idle Speed 59
- Module Information 61
- Other Tests 59
- Pathfinder 63
- Pinion Factor 54
- Pressure Switches 52
- Quick Learn 54
- Read Codes 23
- Read Pinion Factor 54
- Readiness Status 31, 32
- Related TSBs 62
- Reminder Lamp Reset 68
- Reset Adaptive Fuel 60
- Reset Flexible Fuel Percent 60
- Reset Idle Air Control 60
- Reset Minimum TPS 60
- Set Pinion Factor 54
- Set Sync Mode 60
- Specifications 61, 67
- Switch Test 50
- Symptoms 66
- System Type 62
- Trip Counts 30
- TSB References 66
- Vehicle Information 61

K

KOEO Injector Buzz 26
KOEO Output State 26
KOEO self-test 26
KOER Cylinder Contribution 27
KOER Glow Plug 27
KOER Self-Test 27
KOER Switch Test 28

L

LED bar 18
LED switch 19
Location 67
- Computer 67
- Connector 67
- Fuse Box 67

Low Coolant Lamp 43
Low Fan 36
Low Speed Fan On 34

M

Meter, analog 19
MIL Lamp Control 44
Minimum Air Idle Speed 59
Module Information 61

O

O2 Tests 32
- GM 32
- OBD II 32
- Saturn 32

OBD II
- Clear Codes 24
- Component Parameters 33
- Drive Cycle 32
- Freeze Frame 24
- O2 Tests 33
- Pending Codes 23
- Readiness Status 31, 32

OBD II Trip Status 58
Oil Level Lamp 44
Oil Pressure Lamp 44
On Demand Test 28
Other Tests 59

Output Controls 34

P

Pathfinder 63
PCM conflict 12
Pending Codes 23
Pinion Factor 54
Playback File 16
Pneumatic Test 28
Possible Causes 65
Preset/Reset Adaptive Parameters 46
Pressure Control 45
Pressure Switches 52
Print 20
PROM Identification 62

Q

Quick Learn 54
Quick startup 2

R

Read Codes 23
  Read Codes 23
Read Pinion Factor 54
Readiness Status 31, 32
Record
  Diagnostic Code Trigger 14
  Freeze Frame 14
  Playback 14
Record Datastream 15
Record DTCs 16
Record Failure Record 16
Recording
  Delete 17
  Save 17
  View 15
Related Technical Service Bulletins 65
Related TSBs 61
Reminder Lamp Reset 68
Repair Trac 7
Reset Adaptive Fuel 60
Reset Flexible Fuel Percent 60
Reset Idle Air Control 60
Reset Minimum TPS 60
Reverse Inhibit Control 45
Road Test State 22
Road test state 22

S

Saturn 25
  63
  2nd Gear Start Lamp 47
  3-2 Shift Solenoid 46
  A/C Clutch Relay 48
  Accessory Controls 48
  Air Pump 35
  Alternator Lamp 43
  Alternator L-Terminal 48
  B.O.B. Info 67
  Canister Purge Solenoid 38
  Canister Vent Solenoid 38
  Change Oil Lamp 43
  Check Gauges Lamp 43
  Clear Codes 24
  Code Information 64
  Component Locations 67
  Crankshaft Learn 36
  Current Codes 23
  Data Stream 9
  Data/Sensor Information 66
  Drive Cycle 32
  DTC Status 24
  EGR Control 38
  EGR Vent Solenoid 39
  Engine Controls 35
  Engine Hot Lamp 43
  Engine Indicator Lamps 42, 43
  EVAP Service Test 39
  EVAP/EGR Control 37
  Fail Since Clear 24
  Failure Records 25
  Fan On/Off 36
  Fuel Closed Loop 40
  Fuel Injector (1 – 8) Disable 40
  Fuel Pump Relay 39
  Fuel System controls 39
  Fuel Trim Reset 40
  High Fan 36
  IAC Position 37
  IAC RPM 37
  Low Coolant Lamp 43
  Low Fan 36
  MIL Lamp Control 44
  O2 Tests 33
  Oil Level Lamp 44
  Oil Pressure Lamp 44
  Preset/Reset Adaptive Parameters 46
  Pressure Control 45
  Readiness Status 31, 32
  Related TSBs 62
  Reminder Lamp Reset 68
  Shift Lamp 47
  Spark Retard 37
  Specifications 61, 67
  Starter Inhibit 37
  Symptoms 66
  System Type 62
  Torque Converter Clutch Control 45
  Transmission controls 44
  Transmission Gear 46
  Transmission Lamps 47
  TSB References 66
  Vehicle Information 61
  Seat Calibration 28
  Self-Diagnostics 25
  Sensors
    Position 20
    Sort 21
  Set Pinion Factor 54
  Set Synchronization Mode 59
  Shift Lamp 47
  Skip Shift Control 46
  Software install 1
  Spark Retard 37
  Special Tests 31
  Specifications 61, 67
  Speed Cable Slack 28
  Starter Inhibit 37
  STS Lamp 44
  Switch LED 19
  Switch Test 50
  Symptoms 66
  System Type 62

T

Time Shift 12
Torque Converter Clutch Control 45
Transmission controls 44
Transmission Gear 46
Transmission Lamps 47
Triggered record 14
Triggered recording 15
Trip Counts 30
TSB References 66

U

Up-shift Lamp 47

V

Vehicle description 2, 5
  Delete 6
  Reuse 6
  Saved 6
Vehicle Diagnostic Menus 69
Vehicle Information 61

W

Wiggle Test 29

Z

zeroing 11
Zoom graph 20

SPX Corporation Limited Warranty

THIS WARRANTY IS EXPRESSLY LIMITED TO ORIGINAL RETAIL BUYERS OF SPX ELECTRONIC DIAGNOSTIC TOOLS (“UNITS”).

SPX Units are warranted against defects in materials and workmanship for three years (36 months) from date of delivery. This warranty does not cover any Unit that has been abused, altered, used for a purpose other than that for which it was intended, or used in a manner inconsistent with instructions regarding use. The sole and exclusive remedy for any Unit found to be defective is repair or replacement, at the option of SPX. In no event shall SPX be liable for any direct, indirect, special, incidental or consequential damages (including lost profit) whether based on warranty, contract, tort or any other legal theory. The existence of a defect shall be determined by SPX in accordance with procedures established by SPX. No one is authorized to make any statement or representation altering the terms of this warranty.

DISCLAIMER

THE ABOVE WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

SOFTWARE

Unit software is proprietary, confidential information protected under copyright law. Users have no right in or title to Unit software other than a limited right of use revocable by SPX. Unit software may not be transferred or disclosed without the written consent of SPX. Unit software may not be copied except in ordinary backup procedures.

ORDER INFORMATION

Replacement and optional parts can be ordered directly from your SPX authorized tool supplier. Your order should include the following information: quantity; part number; and item description.

Technical Service

If you have any questions on the operation of the product, please call (800) 533-6127.

Repair Service

Send your SPX electronic product freight prepaid and include the following information:

- Company name
- Contact name
- Telephone number
- Description of the problem
- Proof-of-purchase for warranty repairs
- Preferred method of payment for non-warranty repairs

Payment can be made with Visa, Master Card, COD, or with approved credit terms. To receive a credit application, please fax your request to the Credit Department at 800-962-8734.

Send the unit to:

SPX Service Solutions

2300 Park Drive, PO Box 994

Owatonna, MN 55060

Attn.: Repair Dept

SPX OTC 1-800-533-6127
www.otctools.com

Service Solutions, *a unit of SPX Corporation*

655 Eisenhower Drive, Owatonna, MN 55060-0095
Phone: 507-455-7000, International Sales: 507-455-7223

2004 SPX Corporation. All rights reserved

11/15/04 Part Number 529311